BLM

United States Department of the Interior
Bureau of Land Management

Environmental Assessment for the Collbran Pipeline Project

Grand Junction Field Office
2815 H Road
Grand Junction, Colorado 81506

and

Glenwood Springs Energy Office
2425 S. Grand Ave., Suite 101
Glenwood Springs, Colorado 81601

DOI-BLM-CO-130-2009-0027-EA
COC 72189
COC72189-01

December 2008

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FINDING OF NO SIGNIFICANT IMPACT(FONSI)

CHAPTER ONE
INTRODUCTION

1.0 Introduction

EnCana Oil & Gas (USA), Inc. (EnCana) has proposed the installation of a 24 inch buried pipeline. The U.S. Department of the Interior, Bureau of Land Management (BLM) prepared this Environmental Assessment (EA) to evaluate the impacts associated with the construction, operation, and maintenance of the pipeline. The proposal is referred to as the Collbran Pipeline Project (Project). As proposed, the pipeline would be 21.8 miles in length. It would gather and transport natural gas between Anderson Gulch and the Orchard Unit compressor site in Mesa and Garfield counties, Colorado (see Figure 1.1). The proposed pipeline route and potential alternatives cross federal lands managed by the BLM, Grand Junction Field Office (GJFO), BLM, Glenwood Springs Field Office, White River National Forest (WRNF) and Grand Mesa, Uncompahgre and Gunnison National Forests (GMUG). The BLM, GJFO, has been assigned the lead office.

1.1 Purpose and Need

The Purpose and Need stem from the BLM's charge under the Federal Land Policy and Management Act (FLPMA) to manage the public lands including the processing of land use applications The proposed actions are reviewed to ensure there is no unnecessary or undue degradation of the public lands. The purpose of the action is to provide the applicant, EnCana, with the formal response to its application to construct and operate a natural gas pipeline across federal lands managed by the BLM and the U.S. Forest Service. The need for the action is established by the BLM's responsibility under FLPMA, mission statements and land use planning goals and objectives to respond in a timely manner to requests for utility authorizations and to make lands available for environmentally and economically sound energy exploration and development projects. The project would provide a natural gas gathering system that would transport the projected future volumes of natural gas from the western slope of Colorado to major interconnections with interstate pipelines.

1.2 Authorizing Actions and Relationships to Statutes and Regulations

The project traverses several jurisdictional boundaries including federal, state and local agencies. A list of permits, approvals and authorizing actions necessary to construct, operate, maintain and abandon the proposed pipeline is provided in Table 1.2-1.

Table 1.2-1. Required Permits, Approvals and Authorizing Actions

Agency	Permit or Consultation	Applicability
	Federal	
Bureau of Land Management Lead Agency – GJFO	Issuance of right-of-way grants for permanent right-of-way and temporary use areas	Pipeline construction, operation and maintenance
	EA preparation	NEPA compliance
	Antiquities and cultural resource permits	Inventory, excavate and/or remove cultural or historic resources
U.S. Forest Service	Concurrence on decision to	Pipeline construction, operation and

Table 1.2-1. Required Permits, Approvals and Authorizing Actions

Agency	Permit or Consultation	Applicability
	issue right-of-way grant	maintenance
	EA preparation	NEPA compliance
	Road use permit	Use of National Forest System Road (NFSR) 274
Corps of Engineers	NWP 12 Pre-construction Notification	Work in navigable waters of the U.S. or discharge dredge or fill material in waters of the U.S. including wetlands
U.S. Fish & Wildlife Service	Biological Assessment	Consultation process for endangered and threatened species
State of Colorado		
Dept. of Public Health and Environment Air Quality Control Division	Construction Emissions Permit	Construction of land development projects greater than 25 acres
Dept. of Public Health and Environment Water Quality Control Division	Construction Stormwater Permit	Discharge of Stormwater from construction site
	Minimal Industry Discharge Permit	Discharge of hydrostatic test water and discharge of groundwater from construction site
Local – Colorado		
Mesa County	Road Crossing Permit	Crossing of County roads and rights-of-way
Garfield County	Pipeline Development Plan	Installation of pipelines
	Road Crossing Permit	Crossing of County roads and rights-of-way

Note: This list is intended to provide only an overview of key regulatory requirements that would govern project implementation. Additional approvals, permits and authorizing actions could be necessary.

1.3 Decisions to be Made Based on this NEPA Analysis

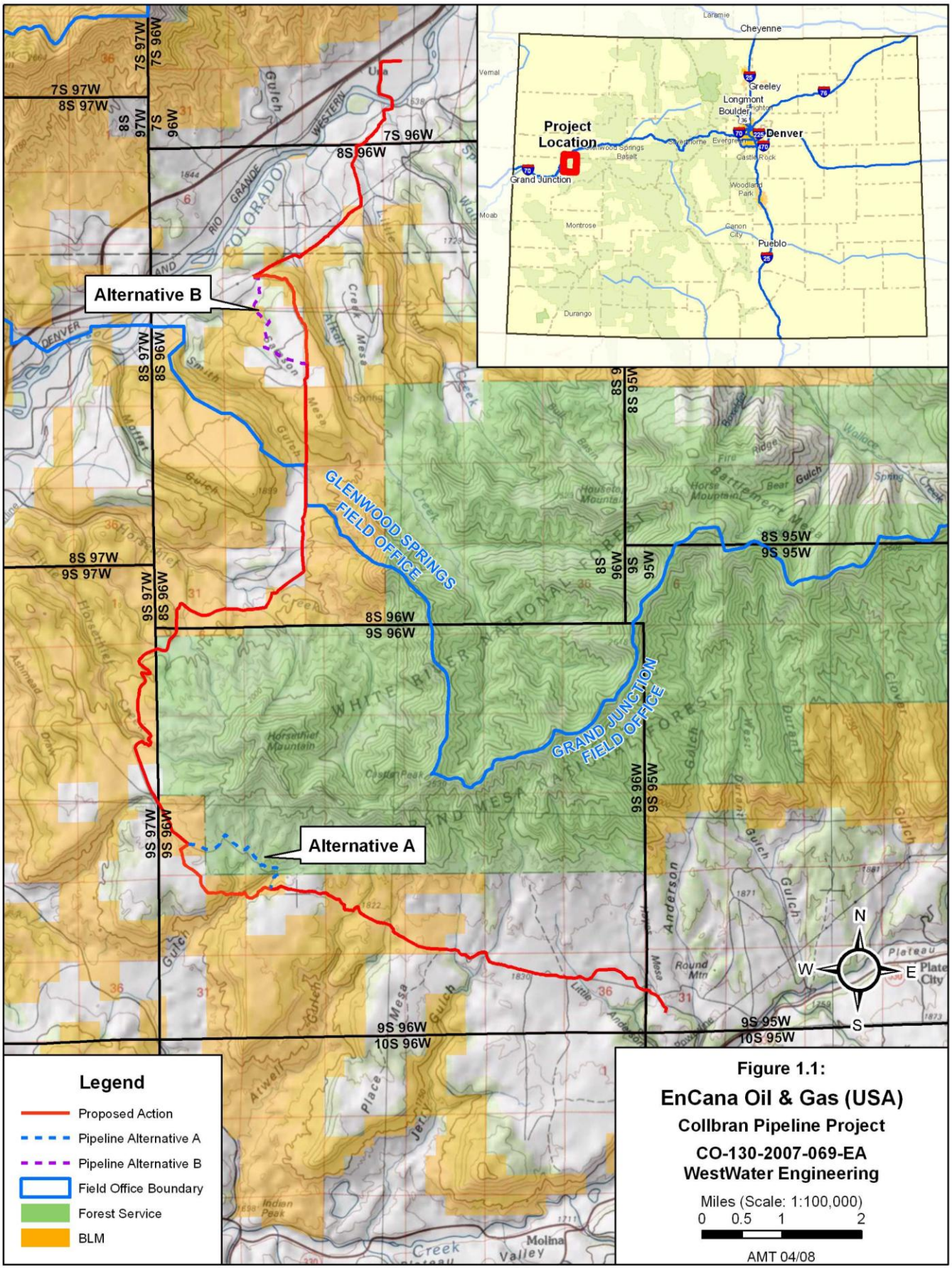
The BLM will decide whether or not to grant the right-of-way (ROW) and ROW amendments based on the analysis contained in this Environmental Assessment (EA). The BLM may choose to: a) accept the projects as proposed, b) accept the projects with modifications, or c) modify the proposed projects by incorporating reasonable alternatives.

The final outcome of the EA is a Decision Record documenting that the Proposed Action would either 1) result in a Finding of No Significant Impact (FONSI) to human environment or 2) that the Proposed Action warrants the development of an Environmental Impact Statement. Decision makers will decide, based on the analysis contained in this EA, whether or not to authorize the Proposed Action or one of the alternatives including the No Action Alternative.

1.4 Decisions to be Made Following this NEPA Analysis

The Decision Record associated with this EA may not constitute the final approval for all actions such as individual right-of-way (ROW) grants and temporary use permits associated with the Proposed Action. It does, however, provide the Authorized Officer with an umbrella analysis

from which to base the final approval for individual project components such as an individual ROW or temporary use permits and if authorized, under what terms and conditions.


Project Location
Cheyenne
Greeley
Longmont
Boulder
Denver
Grand Junction
Pueblo
Durango
Alternative B
Alternative A
GLENWOOD SPRINGS FIELD OFFICE
GRAND JUNCTION FIELD OFFICE
WHITE RIVER NATIONAL FOREST
GRAND MESA NATIONAL FOREST
7S 97W
8S 97W
9S 97W
7S 96W
8S 96W
9S 96W
10S 96W
8S 95W
9S 95W
10S 95W
N
S
E
W
Legend
Proposed Action
Pipeline Alternative A
Pipeline Alternative B
Field Office Boundary
Forest Service
BLM
Figure 1.1:
EnCana Oil & Gas (USA)
Collbran Pipeline Project
CO-130-2007-069-EA
WestWater Engineering
Miles (Scale: 1:100,000)
0 0.5 1 2
AMT 04/08

CHAPTER TWO
PUBLIC PARTICIPATION, ISSUES AND ALTERNATIVES

2.0 Introduction

This chapter describes EnCana's proposed route for the Collbran Pipeline Project and other alternatives developed by the BLM. The Proposed Action and alternatives developed by the BLM are based on EnCana's ROW applications, COC 72189 and COC 72189-01, and the associated Plan of Development (POD).

2.1 Scoping, Consultation and Coordination

Part of the proposal and possible alternatives crosses National Forest System (NFS) lands administered by the U.S. Forest Service (USFS). The BLM has coordinated with the WRNF and GMUG as part of the internal scoping. In addition, the U.S. Fish and Wildlife Service (USFWS), affected Native American Tribes, State Historic Preservation Officer and the Bureau of Reclamation have been contacted and/or consulted.

A press release was issued on January 18, 2008, notifying the public of the proposed project. The proposal was also posted on the GJFO's National Environmental Policy Act (NEPA) web page. One letter was received from the Colorado Division of Wildlife (CDOW). Their initial comments and concerns have been incorporated into the EA.

2.2 Project Location

In this proposal, EnCana is applying for a ROW grant to construct approximately 11 miles of buried pipeline on public and NFS lands. The pipeline would also cross approximately 10.8 miles of private lands for a total length of about 21.8 miles. The pipeline would transport field grade natural gas from Anderson Gulch in the SW¼ of Section 31, T. 9 S., R. 95 W., 6thPM to the Orchard Unit compressor site in the SW¼ of Section 27, T. 7 S., R. 96 W., 6th PM.

The proposed route is located in west central Colorado in Mesa and Garfield Counties. The closest community to the Anderson Gulch area is Collbran, which is approximately five miles east. The closest community to the Orchard Unit site is De Beque, which is approximately six miles southwest. Grand Junction is the closest major town to the project area and is approximately 25 miles west. Generally the proposed route lies south of the Colorado River and I-70, north of the Grand Mesa and east of Colorado State Highway 65. The project area is located on the Long Point and Wagon Track Ridge USGS Quadrangles.

The following legal description is the aliquot parts crossed by the Proposed Action on federal lands.

T. 8 S., R. 96 W., 6th PM
- Section 4; SW¼SE¼
- Section 8; SE¼SE¼, N½SE¼, SW¼NE¼
- Section 9; SW¼NW¼
- Section 16; NW¼SW¼, SW¼NW¼
- Section 21; W½W½
- Section 31; E½SW¼, S½SE¼

Section 32; S½SW¼, W½SE¼
T. 9 S., R. 96 W., 6th PM
Section 6; Lot 4
Section 7; Lot 2, 3 (White River National Forest)
Section 19; Lots 3, 4, 5, 7, 8
Section 27; S½SW¼
Section 28; E½SE¼, NW¼SE¼, S½NW¼
Section 29; N½NW¼
Section 30; N½NE¼
T. 9 S., R. 97 W., 6th PM
Section 12; E½E½
Section 13; NE¼NW¼SE¼, S½NE¼, NE¼NE¼

2.3 Proposed Action

Overview:

EnCana has filed ROW applications (COC 72189 and COC 72189-01) and POD for the installation of a 21.8 mile long 24 inch diameter buried gas pipeline and related facilities (i.e., meter stations, valve sets, cathodic protection equipment, and pipeline markers). Existing roads would be used to access the construction workspace. EnCana would use contractor, pipe storage and off-loading yards on a temporary basis to support construction. Two pipe yards have been identified for use. A seven acre parcel is located at the intersection of US Highway 6 Garfield County Road 300 near Una. Another 20 acre parcel is located approximately two miles southwest of the smaller pipe yard and is also adjacent to US Highway 6. These yards have been previously used for similar activities and are located on private lands. Potentially there could be two meter stations and valve sets located near mileposts 6.1 (NW¼ Sec. 29, T. 9 S., R. 96 W., 6th PM) and 11.7 (SE¼ Sec. 31, T. 8 S., R. 96 W., 6th PM). Land requirements for the meter stations and valve sets would be no more than 50 feet by 50 feet and would be within the ROW.

The proposed pipeline would generally be installed at the edge of existing pipeline or road corridors and would use a standard 25 foot offset from the existing pipelines. Where paralleling existing roads, the pipeline would be installed immediately under or within the road corridor as much as possible. At certain locations, the proposed route deviates from this standard offset configuration due to terrain and/or environmental features. Approximately 20.3 miles or 93 percent of the proposed route parallels existing pipeline or road corridors.

The proposed pipeline route is shown in general on Figure 1-1. A more detailed map is included in Appendix 1 as *Map 1, Proposed Action*. The proposed route begins at Anderson Gulch in the SW¼ of Section 31, T. 9 S., R. 95 W., 6th PM and terminates at the Orchard Unit compressor site in the SW¼ of Section 27, T. 7 S., R. 96 W., 6th PM. Table 2.3-1 delineates the land ownership for the proposed route.

Table 2.3-1. Land Ownership for the Proposed Route

	Total	BLM	USFS	Private
Miles	21.8	10.7	0.3	10.8
Percent	100.0	49.1	1.6	49.3

The proposed pipeline would consist of 24 inch diameter steel pipe with a maximum operating pressure of approximately 1,750 pounds per square inch (psi). The proposed pipeline would be used year round to transport field grade natural gas. At the estimated volume of 850 million standard cubic feet per day (mmscfd), the pipeline would be sized to accommodate anticipated future production of EnCana and other natural gas producers in the Collbran/Plateau Valley area. From the terminus at the Orchard Unit compressor site, the field grade gas would be transported through existing pipelines to the Meeker Gas Plant in Rio Blanco County for processing.

Workforce Requirements and Construction Schedule:

Construction of the proposed pipeline would occur after the Authorized Officer's decision and is expected during the summer of 2008. Construction would take approximately six months. EnCana would notify the Authorized Officers of the appropriate agencies five days prior to commencing construction activities and would comply with all stipulations and mitigation measures included in the grant and POD. Easements would be obtained from private landowners.

The anticipated peak construction workforce is expected to reach approximately 300 workers. The workforce would include local and non-local workers. When available, local workers would be employed for construction. Construction personnel hired from outside the project area would include construction specialists, pipeline welders, supervisory personnel, and inspectors who would temporarily locate to the area. Given the brief six month construction period, most non-local workers are not expected to be accompanied by their families

The construction workforce would commute daily from the surrounding communities between Grand Junction and Glenwood Springs. Vans/busses or carpooling would be used to reduce traffic. Non-local workers would require temporary housing in communities adjacent to the project area. Temporary housing is available in the form of daily, weekly, and monthly rentals in motels, hotels, recreational vehicle (RV) parks, and rental houses. Summer months are the typical busy season for the entire region. However, no temporary employee housing (e.g., man camps) are anticipated.

Design:

The pipeline would be designed and constructed in conformance with the requirements of Title 49 CFR, Part 192, "Regulations for the Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards".

Right-of-Way and Permits:

EnCana would secure all ROWs and permits necessary for construction of the pipeline prior to commencing operations. EnCana is requesting a Federal ROW for a period of 30 years with options to renew for as long as there is marketable quantities natural gas available. EnCana would conduct all activities associated with construction, operation, maintenance and abandonment of the pipeline within the authorized limits of the ROW.

During construction, a 25 foot wide temporary construction workspace is requested along the entire length of the pipeline. Selected areas would require an additional 25 to 50 feet of temporary construction width to accommodate steep and/or side hill slopes, and crossings of roads and drainages. These areas are portrayed on the maps in Appendix 1. The total disturbance width during construction would range from 75 feet to 125 feet if the requested grant and permit are authorized. The Temporary Use Permits for extra workspace during construction would be authorized for up to 3 years with possible renewal upon expiration.

Table 2.3-2 shows the surface disturbance associated with construction of the proposed 21.8 mile pipeline. Because 93 percent of the proposed route parallels existing pipeline or road corridors as described above, surface disturbance would occur on undisturbed land as well as on previously disturbed land within the proposed pipeline ROW.

Table 2.3-2. Surface Disturbance Summary

	BLM	Forest Service	Private	Total
New Disturbance Acres	58	2	57	117
Redisturbance Acres	45	2	45	92
Total Construction Acres	103	4	102	209
Acres Encompassed by the Permanent ROW	65	2	NA	67

Note: All disturbances in the temporary extra workspaces are assumed to be new disturbance. Disturbance associated with activities in the temporary extra workspaces totals 10 acres.

Preconstruction:

Prior to construction, final preconstruction surveys for noxious weed infestations and nesting raptors would be conducted as appropriate. The field survey results would be used to identify any new and additional sensitive resources requiring special protective measures.

Construction:

Installation of the proposed pipeline would generally consist of typical trench-and-bury construction methods. A more detailed description of these methods is presented in the POD accompanying the ROW application. Vehicle traffic during the construction phase would include truck trips for transportation of the pipe and related fittings and other components, delivery of heavy equipment, the daily commuting of the workforce and the daily operation of the construction equipment. Construction activities may temporarily inhibit public use of existing roads and trails, or prevent wildlife or livestock movement. There could be short term road closures if stove piping techniques are used to minimize disturbance in sensitive areas. Wildlife crossovers (trench plugs) would be installed with ramps on either side of the open trench, at maximum 1-mile intervals and at well-defined livestock and wildlife trails to facilitate passage of big game across the right-of-way during construction and to prevent wildlife from being trapped in the trench. In major migration corridors construction would be completed (pipe installation, backfill and rough grading) to allow wildlife unimpeded access across the construction workspace.

Surveys: Civil surveys would be performed to identify the centerline of the proposed pipeline and the boundaries of the approved working limits on both sides of the centerline. Cadastral survey corners/monuments would be noted for protection or proper restoration.

Clearing, Grading and Topsoiling: Vegetation would be cleared and the construction workspace graded to provide for safe and efficient operation of construction equipment and inspection vehicles, and to provide space for the storage of subsoil and topsoil. Construction activity and ground disturbance would be limited to approved areas. Vegetative material would typically be chipped or shredded and incorporated into the topsoil. Where appropriate, stumps could be scattered on the disturbed ground surface to provide color and texture and to create microclimates to encourage vegetation growth.

Topsoil would be salvaged and protected along most of the pipeline route to facilitate re-vegetation of the construction workspace after construction is complete. All available topsoil up to a depth of six inches would be removed from the trench line and working side of the workspace. On any lands requiring grading, the topsoil would be stripped from the entire portion of the workspace that requires grading.

Topsoil would be stockpiled separate from subsoil and would not be used to pad the trench or construct trench breakers. Topsoil and subsoil stockpiles would not block drainages or washes. Gaps would be windowed into the stockpiles to avoid ponding and excess diversion of natural runoff during storm events.

Trenching and Blasting: Construction methods used to excavate a trench would vary depending on soils, terrain and related factors. Trenching machines would be used where possible. In situations such as steep slopes, unstable soils, high water table, or deep or wide trench requirements, trackhoes would generally be used. The typical trench would average 80 to 100 inches deep and 36 to 48 inches wide at the bottom. Greater depths of cover would be required at unpaved road crossings, foreign pipeline crossings, water bodies, other obstructions or to accommodate later planned land use. Construction would be in conformance with Occupational Safety and Health Administration (OSHA) and Department of Transportation (DOT) specifications and regulations.

Numerous drainages are crossed along the proposed route. Drainages would be crossed as close to perpendicular as possible. Drainages would be crossed during periods of low flow and be completed within 24 hours, as feasible. Temporary equipment bridges would be installed across any flowing water bodies. The proposed pipeline would be buried at least five feet below the bottom of each drainage. Topsoil and spoil would be placed at least 10 feet away from the drainage edge. Stream banks would be restored as soon as possible after installation of the pipe. Erosion and sediment control measures would be installed and maintained to prevent sedimentation and stabilize the banks during reclamation.

Paved roads would typically be bored to avoid disrupting traffic in accordance with the governing agency requirements and permitting agreements. Non-surfaced or lightly traveled roads would be crossed using a mechanical ditching machine or a track hoe. Installation at these locations, including cleanup and restoration of road surfaces, would usually be completed within one day. Provisions would be made to detour or control passage of traffic during construction.

Where rock is encountered, tractor mounted mechanical rippers of rock trenching equipment may be used to facilitate excavation. In areas where rippers or trenchers are not practical or sufficient, blasting may be employed.

Blasting would be used only where necessary. Normally, the effects of blasting are confined to the pipeline construction workspace. All necessary authorizations would be obtained and all safety precautions observed. All blasting work would be conducted in compliance with federal, state and local laws, rules and regulations. After blasting has been completed, trackhoes would be used to clean the ditch for pipe installation.

Pipe Installation:

Stringing: Pipe would be hauled by stringing trucks to the pipeline construction workspace. Each joint of pipe would be unloaded with a sideboom or track hoe fitted with a vacuum device and placed (strung) parallel to the trench in a continuous line. Sufficient pipe for road or water body crossings would be stockpiled at staging areas near the crossings.

Stringing operations would be coordinated with trenching and installation activities in order to properly manage the construction time at a particular tract of land. Gaps would be left at access points across the trench to allow crossing of the construction workspace.

Bending: After joints of pipe are strung along the trench, individual joints of pipe would be bent to accommodate horizontal and vertical changes in direction. Field bends would be made utilizing a hydraulically operated bending machine. Where the deflection of a bend exceeds the allowable limits for a field bent pipe, factory (induction) bends or segmented joints would be installed.

Welding: The pipe joints would be lined up end-to-end and clamped into position. The joints would be welded in conformance with 49 CFR Part 192, Subpart E, "Welding of Steel Pipelines" and API 1104, "Standard for Welding Pipelines and Related Facilities" latest approved by DOT.

Inspection: All welds would be visually inspected by a qualified inspector. Non-destructive radiographic inspection methods would be conducted in accordance with DOT requirements. A specialized contractor would be employed to perform this work. Any defects would be repaired or cut out as required under the specified regulations and standards.

Coating: To prevent corrosion, the pipe would be externally coated with fusion bonded epoxy coating prior to delivery. After welding, field joints would be coated with a tape wrap, shrinkable sleeve wrap or field applied fusion bond epoxy. Before the pipe is lowered into the ditch, the pipeline coating would be visually inspected and tested with an electronic detector and any faults or scratches would be repaired.

Lowering and Padding: Before the pipe section is lowered into the ditch, inspection would be conducted to verify that the pipe is properly fitted and installed into the ditch, minimum cover is provided and the trench bottom is free of rocks and other debris that could damage the external pipe coating. Dewatering may be necessary where water has accumulated in the trench. Sideboom tractors would be used to simultaneously lift the pipe section, position it over the trench and lower it in place. Padding machines would be used to sift soil fines from the excavated subsoils to provide rock free pipeline padding and bedding. Sandbags may be used to

pad the bottom of the trench instead of, or in combination with, padding with soil fines. Rock shields may also be used to protect the pipe.

Stove Piping: Stove piping refers to the trenching, stringing and installation of pipe for a shorter distance of a few joints of pipe. This method is used in certain situations such as installation within or adjacent to roadways with reduced construction workspace, areas with steep side slopes that may have reduced construction workspace, and locations where construction workspace is limited due to biological or cultural areas or buffer zones. In these situations, the amount of workspace is limited and the avoidance of excessive disturbance is necessary. The welding, radiographic inspection and coating usually occurs in the trench. Use of the stovepipe method usually requires closing the travel lane (or access work side) due to lack of workspace and safety concerns.

Backfilling:

Backfilling would begin after a section of pipe has been successfully placed in the trench. Backfill would be conducted using a bulldozer, rotary auger backfiller, padding machine or other suitable equipment. Backfilling the trench would generally use the subsoil previously excavated from the trench, except in rocky areas where imported select fill material may be needed. Backfill would be graded and compacted, where necessary for ground stability, by tamping or walking with a wheeled or tracked vehicle. Compaction would be performed to the extent that there are no voids in the trench. Backfill of trenches would not be performed where the soil is frozen to the extent that large consolidated masses are formed that would not break down. Any excavated materials or materials unfit for backfill would either be utilized elsewhere or properly disposed of in conformance with applicable laws or regulations.

Strength Testing:

The pipeline would be tested in compliance with DOT regulations and hydrostatic test water would be acquired and discharged in accordance with Colorado Department of Public Health and Environment (CDPHE) and Water Quality Control Division (WQCD) rules and regulations. Prior to testing each section of the pipeline would be cleaned. Incremental segments of the pipeline would then be filled with water, pressurized and held for the duration of the test. The length of each segment tested would depend on topography.

Typically the hydrostatic tests of individual segments would be conducted in sequence and the test water would be transferred from one segment to another. Test water would be obtained from approved sources under EnCana's Colorado River water rights. A maximum of approximately 2.8 million gallons (8.59 acre feet) of water would be required for hydrostatic testing. Hydrostatic test water discharge would comply with all requirements of the WQCD Minimal Industry Discharge Permit. Potential discharge locations include the Colorado River, Little Anderson Gulch, Horsethief Creek and unnamed tributaries to Plateau Creek and the Colorado River. Testing is expected to proceed from north to south. Discharge is more probable on the southern end of the proposed line.

Cleanup and Restoration:

Cleanup and restoration would occur after backfill activities are completed. Cleanup of the surface along the construction workspace and any temporary use areas would be performed by removing any construction debris and by performing final grading to the finished contour. EnCana would condition the pipeline ROW in a manner that would preclude vehicular travel, except for access necessary for operation and maintenance. Erosion control measures would be installed as described in the POD's Stormwater Management Plan. Reclamation of the disturbed construction corridor outside of roadbeds would most likely occur in the fall at the end of the construction season. The disturbed pipeline route would be seeded with grasses and shrub species as required by the BLM and the surface owners and in accordance with the POD's resource and reclamation plans. Pipeline markers identifying the route would be installed after construction is completed.

Health and Safety:

The contractor would implement the requirements listed in the POD's Safety Plan, Fire Prevention and Suppression Plan, Blasting Plan and Strength Testing Plan.

Waste Disposal:

Littering would be prohibited. Construction and operation sites would be maintained in a sanitary and safe condition at all times. Waste materials would be disposed of promptly in accordance with State and local regulations. Waste is defined as all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, blasting boxes and equipment. There would be no hazardous materials used, produced, transported or stored within the pipeline ROW.

Operation and Maintenance:

The reclaimed pipeline corridor would be monitored over the operational life of the project for problems. Operation and maintenance activities would be in accordance with industry standard procedures to ensure safe operation and to maintain the integrity of the pipeline system. If problems arise, they would be repaired and/or treated as required by the Authorized Officer to minimize environmental impacts. Some settling of the backfilled trench would occur, particularly after the first winter following construction. Any subsidence or potholes would be restored to normal grade and reseeded. A regular maintenance program would include, but would not be limited to, soil stabilization/erosion and noxious weed management and control. Wildlife avoidance periods would be observed except in emergency situations. The Authorized Officer would be notified of necessary emergency maintenance during these periods.

Emergency Procedures:

EnCana would develop an emergency plan that would include written procedures and information that have been used to minimize the hazards of natural gas pipeline emergencies.

Termination and Abandonment:

Prior to termination of the construction workspace grant, or any portion, EnCana would contact the Authorized Officer to arrange for a pre-termination meeting and joint inspection. The meeting and inspection would take place a minimum of 30 days prior to termination. The

approved plan would include, but not be limited to, abandonment and/or removal of facilities, drainage structures and/or surface material, recontouring, replacing of topsoil, seeding and monitoring. EnCana would relinquish all or those specified portions of the construction workspace in accordance with the termination plan.

2.4 Alternatives

BLM has developed alternatives to EnCana's Proposed Action through its internal scoping and in coordination with the USFS and other agencies. Viable alternatives to be further analyzed in detail are listed in Section 2.4.1. Due to their short sections, the existing environment and impacts would be largely the same. Specific differences in the environment and impacts are addressed in detail in Chapters 3 and 4 of this EA. Other alternatives were identified and considered, but not analyzed in detail for the reasons listed in Section 2.4.2.

2.4.1 Alternatives Considered in Detail

No Action Alternative: In accordance with Council on Environmental Quality (CEQ) regulations, the impacts of this alternative are evaluated to provide a baseline to compare impacts associated with the Proposed Action. Under this alternative, the ROW application for the use of the Federally-administered lands would be denied and construction would not occur.

Alternative A: Under this alternative, the route would deviate from the Proposed Action route at a point in the NW¼ of Section 29, T. 9 S., R. 96 W., 6th PM. The alternative route would be adjacent or immediately under Mesa County V Road on private land and NFSR 274 where it comes onto NFS lands (also known as Sunnyside Road). It would cross a portion of the GMUG and then rejoin the Proposed Action route at a point in the SW¼ of Section 19, T. 9 S., R. 96 W., 6th PM. The Alternative is shown in general on Figure 1.1. A more detailed map is included in Appendix 1 as *Map 2, Alternative A*. Table 2.4.1-1 delineates the land ownership for the Alternative A route.

Table 2.4.1-1. Land Ownership for the Alternative A Route

	Total	BLM	USFS	Private
Miles	21.9	10.1	1.7	10.1
Percent	100.0	46.3	7.8	45.9

Table 2.4.1-2 shows the total surface disturbance associated with construction of the alternative pipeline route. Under Alternative A the route parallels an existing corridor (NFSR 274) for a longer length; Consequently, surface disturbance would occur on previously disturbed land as well as undisturbed land adjacent to the road for 98 percent of the total length as compared to 93 percent of the Proposed Action.

Table 2.4.1-2. Surface Disturbance Summary

	BLM	Forest Service	Private	Total @75' width with EWS{max}
New Disturbance Acres	51	21	49	120
Redisturbance Acres	46	6	44	98
Total Construction Acres	97	27	93	218

Acres Encompassed by the Permanent ROW	61	10	NA	71

Note: All disturbances in the temporary extra workspaces are assumed to be new disturbance. Disturbance associated with activities in the temporary extra workspaces totals 19 acres.

During the analysis, it became important to further distinguish the acreage impact differences between Alternative A and the Proposed Action in the vicinity of Shire Gulch. The length of the line where the Proposed Action and Alternative A deviate is slightly less than two miles (see Figure 1). The acreage disturbance figures in the Shire Gulch area where the alternatives deviate are presented below.

Acreage Disturbance Differences in the Shire Gulch Area

	Proposed Action (acres) @ 75‘ and including EWS	**Alternative A** (acres) @ 75’ (min)	@ 75’ + EWS (max)
BLM			
New Disturbance	11	2	2
Redisturbance	1	2	2
Total	12	4	4
Forest Service			
New Disturbance	~	6	21
Redisturbance	~	6	6
Total	~	12	27
Private			
New Disturbance	7	~	~
Redisturbance	~	~	~
Total	7	~	~
Grand Total	19	16	31

In summary, this alternative is 368 feet longer than the Proposed Action and could result in a range of 16 to 31 acres of disturbance, of which 4 acres would be on public lands managed by the BLM GJFO and 12-27 acres would be on NFS lands managed by the GMUG. The area of disturbance for the Proposed Action in the Shire Gulch area is estimated to be 19 acres with approximately 7 acres on private surface and 12 acres on public land managed by the BLM GJFO. The construction disturbance for Alternative A on NFS lands in the Shire Gulch area is estimated to range between 12 and 27 acres. There is the potential for 3 acres of decreased disturbance from construction on Alternative A in comparison to the Proposed Action if construction widths can be minimized to 75 feet. Under the maximum disturbance scenario there is the potential for a total 12 acres of increased disturbance on Alternative A in comparison to the proposed action if the maximum estimated construction width of up to 200 feet is determined to be necessary.

Alternative B: Under this alternative, the route would deviate from the Proposed Action route at a point in the SW¼ of Section 16, T. 8 S., R. 96 W., 6th PM. The alternative route would follow a planned road to the G17OU well pad, drop off the edge of the mesa to a point where it intersects the existing access road to the C17OU well pad, and then follow the existing well access road until it rejoins the Proposed Action route at a point in the SW¼ of Section 8, T. 8 S., R. 96 W., 6th PM. The Alternative is shown in general on Figure 1.1. A more detailed map is

included in Appendix 1 as *Map 3, Alternative B.* Table 2.4.1-3 delineates the land ownership for the Alternative B route.

Table 2.4.1-3. Land Ownership for the Alternative B Route

	Total	BLM	USFS	Private
Miles	21.9	9.8	0.3	11.8
Percent	100.0	44.6	1.5	53.9

Table 2.4.1-4 shows the total surface disturbance associated with construction of the alternative pipeline route. Because 91 percent of the route parallels existing pipeline or road corridors as described above, surface disturbance would occur on undisturbed land as well as on previously disturbed land within the proposed pipeline ROW.

Table 2.4.1-4. Surface Disturbance Summary

	BLM	Forest Service	Private	Total
New Disturbance Acres	54	2	65	121
Re-disturbance Acres	40	2	49	91
Total Construction Acres	94	4	114	212
Acres Encompassed by the Permanent ROW	59	2	NA	61

Note: All disturbances in the temporary extra workspaces are assumed to be new disturbance. Disturbance associated with activities in the temporary extra workspaces totals 12 acres.

In summary, this alternative is 589 feet longer and results in 3 acres more total impact than the Proposed Action. There would be 9 less acres disturbance on BLM lands and 12 more acres disturbance on private lands. The BLM coordinated with the private surface owner that would be principally impacted by this alternative.

2.4.2 Alternatives Considered but not Analyzed in Detail

Alkali Creek Alternative: An alternative route was identified that would deviate from the Proposed Action at the L16OU well pad in the SW¼ of Section 16, T. 8 S., R. 96 W., 6th PM, then drop off the mesa edge east into Alkali Creek and follow the drainage until it rejoined the Proposed Action route at a point in the NE¼ of Section 8, T. 8 S., R. 96 W., 6th PM. There has been no development in the Alkali Creek drainage. This alternative was dropped from further consideration due to the new surface disturbance and increased resource impacts that would occur.

Moffat Gulch Alternative: An alternative route was identified that would deviate from the Proposed Action in the SE¼ of Section 29, T. 8 S., R. 96 W., 6th PM and head northwest down Moffat Gulch. Two variations of this alternative were also considered. One variation remained in the bottom of Moffat Gulch and the other variation climbed onto the ridge to the east of Moffat Gulch. These variations rejoined where the routes intersected the power line corridor in Section 24, T. 8 S., R. 97 W., 6th PM. From this point, this alternative route paralleled the power line corridor until it rejoined the Proposed Action route at a point in the SW¼ of Section 8, T. 8 S., R. 96 W., 6th PM. This alternative route crosses lands owned by the Bureau of Reclamation that were acquired as mitigation lands. They are being managed in partnership with the CDOW

and the Western Colorado Wildlife Habitat Association to enhance fish and wildlife habitat and offset impacts from other Bureau of Reclamation Projects. This alternative was dropped from further consideration due to the new surface disturbance and increased resource impacts that would occur in conflict with the goals and management objectives of the mitigation lands.

TRANSCO Corridor Alternative: An alternative route originally considered paralleled the existing TRANSCO pipeline corridor for a portion of the length. This alternative would have increased the total length of the proposed pipeline by anywhere from six to eleven miles depending on design parameters. Generally the additional disturbance would be commensurate with the additional length. An additional compressor station would be necessary and would emit additional air pollutants in addition to the surface disturbance. Based on the knowledge acquired from the TRANSCO project, the route would cross through additional known T&E plant populations. Portions of this route were constructed adjacent and under the De Beque cut off road. Sections along the cut off road are narrow due to steep topography. Construction in those areas would require lengthy closure of the road and raise other safety concerns due to the proximity of the high pressure TRANSCO line. The TRANSCO project was constructed using an open cut across the Colorado River. Concerns over T&E fish make the use of an open cut no longer viable. Reconnaissance investigations were undertaken to evaluate the possibility of boring under the Colorado River. Concerns over the estimated depth and nature of the gravels in the alluvium would make boring difficult to very expensive. Much better geotechnical information would be necessary to ascertain the viability of boring under the river. Overall the environmental resource impacts would be higher and the construction cost could make the project uneconomic.

2.5 Design Features/Design Criteria

EnCana has committed to follow certain design features to mitigate impacts to resources as part of the construction and maintenance activities. These measures are outlined in the POD that accompanied the ROW application and are adopted. The operator committed mitigation, or design criteria, is included in Appendix 2 for reference. Best Management Practices (BMPs) would be used.

The Grand Junction Resource Area Record of Decision and Approved Resource Management Plan (January 1987) includes a list of standard design practices to be applied for all surface disturbing activities and for pipeline projects. The applicant is required to be familiar with those standard design practices and to implement them as on-site conditions warrant.

In addition, EnCana submitted a letter dated June 12, 2008 committing to additional design features. These are also listed in Appendix 2. Many of these design features are refinements and/or similar in nature to the more 'traditional' standard design practices and best management practices. However, four items involve off site mitigation. EnCana has committed to

- Purchase the grazing permit associated with the Atwell Gulch grazing allotment,
- Placing their Sunnyside property (approximately 160 acres in Section 32, T. 8 S., R. 96 W. 6thPM) into a conservation easement with while reserved rights to develop their oil and gas assets and related infrastructure along with the right to construct a future 2 residences,
- Completing 500 acres of habitat enhancement (i.e.; roller chopping or other alternative vegetation clearing) not to exceed $100,000,

EnCana has also contributed $30,000 for a sage grouse study as part of the Orchard Unit II Master Development Plan. Although identified as part of another project, it has a direct bearing on issues addressed in this EA.

2.6 Plan Conformance Review

The Proposed Action is subject to and has been reviewed for conformance with the following plans (43 CFR 1610.5, BLM 1617.3):

Grand Junction Resource Management Plan (RMP)

Date Approved: January, 1987

Decision Number/Page: 2-29

Decision Language: To respond, in a timely manner, to requests for utility authorizations on public land while considering environmental, social, economic, and interagency concerns. BLM lands within the Project Area are identified by a single emphasis area in the RMP/Record of Decision (ROD): "Gd – Emphasis on Land Disposal." Identify all tracts as sensitive to public utilities. Approve only ROW applications that would not unduly depreciate the tract's appraised values.

Decision Number/Page: 2-7

Decision Language: To make federal oil and gas resources available for leasing, except where prohibited by law or where administrative action is justified in the national interest; to make public land available for economically and environmentally sound exploration and development projects; to avoid health and safety hazards; to protect important, sensitive resource values from unacceptable impacts; and to minimize the impacts to lessees from sensitive resource protection and hazard avoidance.

Discussion: The Proposed Action is in conformance with the 1987 Grand Junction RMP.

Glenwood Springs Resource Management Plan

Date Approved: January 1984

Decision Number/Page: Page 38

Decision Language: Objective: To respond, in a timely manner, to requests for utility and communication facility authorizations on public land while considering environmental, social, economic, and interagency concerns.

Decision Number/Page: Page 12

Decision Language: Objective: To maintain the maximum amount of public land available for mineral exploration and development.

Discussion: The Proposed Action is in conformance with the 1984 Glenwood Springs RMP. The 1984 RMP was amended in November, 1991 - *Oil and Gas Leasing and Development - Final Supplemental Environmental Impact Statement* and amended in March, 1999 - *Oil and Gas Leasing & Development Final Supplemental Environmental Impact Statement (FSEIS)*. While these later amendments did not specifically address Realty authorizations, the Proposed Action is in general conformance with the goals and objectives.

BLM Standards for Public Land Health

In January 1997, Colorado BLM approved the Standards for Public Land Health. The five standards cover upland soils, riparian systems, plant and animal communities, threatened and endangered species, and water quality. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands. The environmental analysis must address whether the Proposed Action or alternatives being analyzed would result in impacts that would maintain, improve, or deteriorate land health conditions relative to these resources. These analyses are presented in the applicable resource narratives below.

White River National Forest Land and Resource Management Plan

Date Approved: 2002 Revision (Modified March 2006)

The White River National Forest (WRNF) Forest Plan provides long-term, Forest-wide goals and objectives for NFS lands in the WRNF. The WRNF Forest Plan includes Management Area (MA) direction and prescriptions to define where different management activities may be implemented, desired conditions, and where different kinds of public use may occur. Forest-wide management requirements (also known as standards and guidelines) direct activities within the Forest and each MA. This EA is a project-level analysis that conforms to WRNF Forest Plan management direction including goals and applicable standards and guidelines. Where appropriate, this EA tiers to the Forest Plan and is hereby incorporated by reference. The Proposed Action was designed to be consistent with all applicable WRNF Forest Plan direction (MA and Forest-wide).

The Proposed Action is located in a combined Research Natural Area and MA Category 5, which primarily includes forested and rangeland ecosystems that are managed to meet a variety of ecological and human needs. Some areas are often characterized by a substantially modified natural environment. Ecological conditions are maintained while emphasizing selected biological structures and compositions. High levels of investment, use activity, facility density and vegetation manipulation evidence often characterizes areas within MA Category 5. Users of MA Category 5 areas expect to see other people and evidence of human activity. Facilities supporting the various resources and land uses are common within this MA. Motorized transportation is also common within this MA. The specific features of the Proposed Action are located within the Lower Battlement Research Natural Area and MA subcategory 5.42, Bighorn Sheep Habitat.

Discussion: Generally the Forest Plan guidance is to not plan utility corridors through research natural areas unless required. However, the Proposed Action is adjacent or within a 300 foot buffer to an existing road (NFSR 274) and would therefore be permissible.

Grand Mesa, Uncompahgre and Gunnison National Forest Land and Resource Management Plan

Date Approved: 1983

The Grand Mesa, Uncompahgre and Gunnison National Forests (GMUG) Forest Plan (USFS 1983) provides long-term, Forest-wide goals and objectives for National Forest System (NSF) lands in the GMUG. The Forest Plan includes Management Prescriptions to define where different management activities may be implemented and to show where different kinds of public use may occur. This EA is a project-level analysis that conforms to GMUG Forest Plan management direction, including goals, and applicable standards and guidelines. Where appropriate, this EA tiers to the GMUG Forest Plan and is hereby incorporated by reference. The Proposed Action was designed to be consistent with all applicable GMUG Forest Plan direction (MA and Forest-wide).

The Proposed Action on NFS lands within the GMUG is located within MA 5A, which includes emphasis on habitat capability for big game on non-forested winter range. Management emphasis is on winter range for deer, elk, pronghorns, and bighorn sheep. Treatments are applied to increase forage production of existing grass, forb and browse species or to alter plant species composition. Prescribed burning, seed for wildlife and range, spraying, planting and mechanical treatment may occur. Browse stands are regenerated to maintain a variety of age classes and species. Winter range is managed to produce wildlife habitat capability greater than or equal to 90 percent of potential. Range is managed for a mid-seral or better condition. Investments in compatible resource activities occur. Livestock grazing is compatible, but is managed to favor wildlife habitat. Structural range improvements benefit wildlife. Management activities would meet adopted visual quality objectives (VQO). New roads other than short-term (temporary) roads are located outside of the management area. Short-term roads are obliterated within one season after intended use. Actions that may cause a species to become threatened or endangered must be avoided. Impacts to species of concern should also be avoided or minimized and must not create a trend towards listing. Existing local roads are closed and new motorized recreation use is managed to prevent unacceptable stress on big game animals during the primary big game use season. Consent to issue permits is not given when operational damage on surface resources, including the impacts of surface-based access, product transportation, etc would occur. Special uses that can be reasonably met on private or other federal land should only be authorized if they are in the public interest.

CHAPTER THREE
AFFECTED ENVIRONMENT

3.0 Introduction

This chapter provides a description of the human and natural environmental resources that could be affected by the Proposed Action and alternatives. This EA draws upon information compiled in the RMPs covering the project area. In addition, a Land Health Assessment (LHA) for the Battlement Mesa area has been completed that addresses the Standards for Public Land Health.

A variety of laws, regulations, and policy directives mandate the evaluation of the effects of a Proposed Action and alternatives on certain critical environmental elements. Not all of the critical elements that require inclusion in this EA are present, or if they are present, may not be affected by the Proposed Action and alternatives (Table 3.0-1). Only those mandatory critical elements that are present are described under **3.1 Critical Elements**. The environmental analysis must also address whether the Proposed Action or alternatives being analyzed would result in impacts that would maintain, improve, or deteriorate the Standards for Public Land Health.

Table 3.0-1. Critical Elements of the Environment

Critical Element	Present		Affected		Critical Element	Present		Affected	
	Yes	No	Yes	No		Yes	No	Yes	No
Air Quality	X		X		Prime or Unique Farmlands		X		X
ACECs		X		X	Special Status Species*	X		X	
Cultural Resources	X		X		Wastes, Hazardous or Solid	X		X	
Environmental Justice		X		X	Water Quality, Surface and Ground*	X		X	
Floodplains		X		X	Wetlands and Riparian Zones*		X		X
Invasive, Non-native Species	X		X		Wild and Scenic Rivers		X		X
Migratory Birds	X		X		Wilderness / WSAs		X		X
Native American Religious Concerns	X		X						

* Public Land Health Standard

In addition to the critical elements, the resources presented in Table 3.0-2 were considered for impact analysis relative to the Proposed Action and alternatives. Only those resources that would be affected by the Proposed Action and alternatives are discussed under **3.2, Other Affected Resources**.

Table 3.0-2. Other Resources Considered in the Analysis.

Resource	NA or Not Present	Present and Not Affected	Present and Affected
Access and Transportation			X
Cadastral Survey	X		
Fire/Fuels Management		X	
Forest Management	X		
Geology and Minerals			X
Law Enforcement		X	
Paleontology			X
Noise			X
Range			X
Realty Authorizations			X
Recreation			X
Socio-Economics			X
Soils*			X
Vegetation*			X
Visual Resources			X
Wildlife, Aquatic*			X
Wildlife, Terrestrial*			X
Forest Service Management Indicator Species			X
Forest Service Research Natural Area			X
Forest Service Inventoried Roadless Area			X

* Public Land Health Standard

3.1 Critical Elements

3.1.1 Air Quality

Air quality in the project area is typical of undeveloped regions in the western United States. No designated Class I airsheds are located within the vicinity of the project area. The closest Class I airsheds are the Flat Tops and Maroon Bells Wilderness Areas and the wilderness portion of the Black Canyon National Park. These areas are 50+ miles from the project area. In addition, the State of Colorado limits the incremental amount of SO_2 allowed in Dinosaur and Colorado National Monuments.

The primary sources of air pollutants in the region are fugitive dust from the surrounding area, unpaved roads, seasonal sanding for winter travel, motor vehicles and wood burning stove emissions. Seasonal wildfire throughout the western United States may also contribute to air pollutants and regional haze. The ambient pollutant levels are usually near or below measurable limits, except for high short term increases in PM10 levels (primarily windblown dust), ozone and carbon monoxide. Within the Rocky Mountain region, occasional peak ozone levels are relatively high, but are of unknown origin. Elevated concentrations may be the result of long range transport from urban areas, subsidence of stratospheric ozone or photochemical reactions with natural hydrocarbons. Occasional peak concentration of CO and SO_2 may be found in the immediate vicinity of combustion equipment. Locations vulnerable to decreasing air quality

include the immediate areas around mining and farm tilling, local population centers and distant areas affected by long range transportation of pollutants. Representative monitoring of air quality in the general area indicates that the existing air quality is well within Colorado and National Ambient Air Quality Standards.

The EPA General Conformity regulations require that an analysis (as well as a possible formal conformity determination) be performed for federally sponsored or funded actions in non-attainment areas and in designated maintenance areas when the total direct and indirect net air pollutant emissions (or their precursors) exceed specified levels. Since the project area is not within a non-attainment or a maintenance area, the Clean Air Act conformity regulations do not apply.

3.1.2 Cultural Resources

Cultural resource inventories are conducted to meet requirements of several laws including the National Environmental Policy Act of 1969 (NEPA), The Federal Land Policy and Management Act of 1979, and the Archaeological Resources Protection Act of 1979 and the Native American Graves Protection and Repatriation Act (NAGPRA). The National Historic Preservation Act of 1979 (NHPA) directs federal agencies to ensure that authorized actions do not inadvertently disturb or destroy significant cultural resource values. The eligibility determination and consultation process is guided by Section 106 of the NHPA and by regulations in Title 36 of the Code of Federal Regulations. Inventory to identify, evaluate and mitigate potential effects to cultural resources affected by an undertaking is the first step in the Section 106 process.

A 100 percent, intensive (Class III) cultural resource survey of the linear route was completed. In general, the route was inspected to a width of 200 feet; however, in one area on Samson Mesa the corridor was expanded to 500 feet (250 feet each side of center line). A site is the locus of previous human activity (50 year minimum age) at which the preponderance of evidence suggests either a one time use, repeated use over time or multiple classes of activities. An isolated find refers to one or more culturally modified objects not found in the context of a site as defined above. All cultural resources that qualified as sites were recorded and evaluated for determining eligibility for nomination to the National Register of Historic Places (NRHP) (Conner and Davenport 2007). The statements of significance are field assessments to support recommendations to the State Historic Preservation Officer (SHPO). The final determination of site significance is made by the controlling federal agency in consultation with the SHPO and the Keeper of the Register. Consultation with the SHPO was completed. Their findings and concurrence with recommendations is documented in CRIR BLM GJFO 1107-12.

As expected, cultural resources were identified. The files searches indicated eleven sites and six isolated finds were previously recorded within or adjacent to the Proposed Action or alternatives. Previously recorded sites were reevaluated and those found eligible were assessed in terms of the potential impact by this project. Of the previously recorded sites and isolates, one could not be found. The intensive field inventory newly documented 14 sites and 42 isolated finds. In total, ten sites were evaluated as eligible and one potentially eligible (e.g.: need additional data) for listing on the NRHP. The remaining sites and isolated finds were evaluated as not eligible. Table 3.1.2-1, National Register Eligible Sites and Potential Effect, lists the sites consulted on with the SHPO.

Table 3.1.2-1: National Register Eligible Sites and Potential Effect

Site Number	Eligibility Criteria	No Effect	No Adverse Effect
5GF109	"d"		X Data Recovery
5GF364	"a & c"		X Exiting Use
5ME113	"d"		X Data Recovery
5ME644.3	"a & c"	Avoided	
5ME974	"d"		X Data Recovery
5ME12825	"d"	Avoided	
5ME15674	"d"	Previously monitored. Avoided	
5ME16097	"d"		X Data Recovery
5ME16098	"d"	Avoided	
5ME16100	"d"	Avoided	
5ME16102	"d"		X Data Recovery

Previous archaeological studies in the general vicinity have suggested regional occupation for as long as 10,000 years. The majority of finds in the area are primarily of the late Archaic, Formative (Fremont) and Numic (Ute) Eras, which may be entirely the result of site depositional properties. Based on the locations of the recorded sites, it seems possible that their distribution of the landscape is partially the result of exposure by geologic processes and not necessarily a product of cultural selection. Late Archaic and later sites have the best surface exposure and surface remains reflect some part of the prehistoric settlement plan, but it is neither a complete nor a pristine view. There are still significant areas covered by recent (soil) deposits that conceal prehistoric cultural remains and movement of artifacts on the surface of moderate slopes through time has altered the specifics of settlement preference.

This and previous studies indicate that this area was intensively occupied during the Protohistoric Era. Unfortunately evidence of sites where wickiups were present has been nearly wiped out by post cutting, wood collection and ranching over the past 125 years. Also, surface collection of diagnostic artifacts has impacted the sites and affected the assignment of cultural/temporal associations.

Historic sites recorded by this inventory include historic homesteads. These are typical of the area and the documentation of them fit well within the historical record. Trails are an important part of the history of any area, and the Sunnyside Road appears to have been present from an early period. GLO records document a road or track very close to the Sunnyside Road's current location as early as the 1909-1911 survey and again by one in 1922. Notably, historic Euro-American roads often followed aboriginal trails, which may help explain the high density of Prehistoric/Protohistoric archaeological sites along the proposed route and alternatives. In addition, the probable historic route of the Dominguez-Escalante Expedition passes through the project area. This trail is shown in archival documents and represents a significant event in regional history. No physical evidence of the expedition's route has been found, so it can not be considered a historic property. However, the trail's possible route through the project area is of interest.

3.1.3 Environmental Justice

The requirements for environmental justice review were established by Executive Order 12898 (February 11, 1994). That order declared that each Federal agency is to identify "disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority populations and low income populations." Minority segments of the population are described in Section 3.2.8 Socio-Economics.

According to Census 2000, the only minority population of note in the impact area is the Hispanic community of Mesa County. Persons describing themselves as Hispanic or Latino represented 10.0 percent of the Mesa County population and 16.7 percent of the Garfield County population, less than the Colorado state figure for the same group, 17.1 percent. Blacks, American Indians, Asians and Pacific Islanders each accounted for less than one percent of the population, below the comparable state figure in all cases. The census counted 7.0 percent of the Mesa County population and 4.6 percent of the Garfield County population as living in families with incomes below the poverty line, compared to 6.2 percent for the entire state. Both minority and low income populations are dispersed throughout the counties.

3.1.4 Invasive Non-native Species

The State of Colorado, Garfield County and Mesa County have each developed lists of non-native plants considered noxious within their respective areas. During biological field surveys (WWE 2007) of the proposed pipeline corridor and alternatives, the presence of noxious plant species was documented. Six species on the Mesa County, Garfield County or State of Colorado were noted during biological field surveys in 2007. Noxious weed observed included downy brome (cheatgrass) (*Bromus tectorum),* halogeton (*Halogeton glomeratus*), salt cedar (tamarisk) (*Tamarix ramosissima*), Russian olive (*Elaeagnus angustifolia),* chicory (*Cichorium intybus*) and Russian knapweed (*Acroptilon repens*).

Downy brome was common throughout the project area, being most abundant in stands of sagebrush, juniper woodland and open grass/forb stands. Downy brome was frequently the most abundant plant within the herbaceous layer of vegetation, but not so abundant as to totally exclude other species.

On BLM and NFS managed lands, vegetation communities do not support extensive noxious weed infestations, except for downy brome. Salt cedar is scattered along most major drainages and is quite abundant around numerous older stock ponds. Halogeton was noted at one location in the Horsethief Basin, but is not widespread throughout the area.

Noxious weeds associated with riparian habitat were found primarily on private land near the Colorado River. Chicory, Russian knapweed, salt cedar and Russian olive were observed in the existing pipeline corridor on the north side of the Colorado River at the Una Bridge crossing. Russian olive and salt cedar were quite aggressive in the area, while chicory and knapweed were sparsely scattered. Salt cedar was seen throughout the project area on public and private lands, but was restricted to larger washes and older, highly silted stock ponds.

3.1.5 Migratory Birds

Migratory birds within the project area are also identified as Birds of Conservation Concern (BOCC), BLM sensitive species and/or USFS sensitive species. Consequently, they are described in Sections 3.1.7, Special Status Species (yellow billed cuckoo, loggerhead shrike, sage sparrow, Brewer's sparrow, grey vireo, black throated grey warbler, golden eagle, bald eagle). Waterfowl including Canadian goose and a variety of duck species also frequent the Colorado River.

Other songbirds noted during the surveys include mountain bluebird, mourning dove, white-breasted nuthatch, blue-gray gnatcatcher, northern flicker, Say's phoebe, dusky flycatcher, gray flycatcher, Steller's jay, mountain chickadee, vesper sparrow, Townsend's solitaire, canyon wren, violet-green swallow, barn swallow, meadow lark, raven and eastern kingbird.

3.1.6 Native American Religious Concerns

In general, the study area exhibits a high degree of disturbance from previous construction activities related to oil and gas development and grazing activities. Increased access associated with these activities has increased the susceptibility of Native American values to disturbance and damage from artifact collectors and vandals. The Ute Indian Tribe of the Uintah and Ouray Reservation, the Southern Ute Indian Tribe and the Ute Mountain Ute Tribe were consulted in regards to the project and their concerns, terms and conditions.

The Ute Indian Tribes claim the area as part of their ancestral homeland. At present, substantial Native American concerns were identified during the cultural resource records search or inventory and are known to exist within the project area.

3.1.7 Special Status Species (includes an analysis of Public Land Health Standard 4)

3.1.7.a Threatened, Endangered and Candidate Species

The analysis of the affected environment was conducted using an approach that addressed the geographic location of the project and then an analysis of species that potentially would be affected. During the analysis, species and habitats which could be affected directly and indirectly by construction disturbance and associated human caused activities were taken into consideration.

Information used to generate the potentially affected Threatened, Endangered and Candidate (T&E) species is based on species status, distribution, and ecology (Table 3.1.7.a-1). It was derived from USFWS recovery plans, Colorado Natural Heritage Program (CNHP) data and reports, CDOW habitat/vegetation mapping, forest-wide geographic information system (GIS) lynx mapping coverage (USFS 2002a), personal knowledge of CDOW, USFS and BLM present and former biologists, USFWS biologists, various scientific studies and reports, and information contained in the Grand Junction and Glenwood BLM Resource Management Plans and GMUG-WRNF forest plans. Internet resources were consulted and pertinent information employed to develop the analysis.

Table 3.1.7.a-1. Threatened and Endangered Species Potentially Affected.

Common Name	Scientific Name	*Status	Occurrence	Habitat suitability
Colorado hookless cactus	*Sclerocactus glaucus*	T	Confirmed	Occupied and suitable habitat present
De Beque phacelia	*Phacelia submutica*	C	Confirmed	Occupied and suitable habitat present
Razorback sucker	*Xyraunchen texanus*	E	Not confirmed	Potential habitat in Colorado River
Colorado pikeminnow	*Ptychocheilus lucius*	E	Not confirmed	Potential habitat in Colorado River
Humpback chub	*Gila cypha*	E	Not confirmed	No potential/designated habitat in Colorado River
Bonytail	*Gila elegans*	E	Not confirmed	No potential/designated habitat in Colorado River
Mexican spotted owl	*Strix occidentalis lucida*	T	Not confirmed	Marginal, transitory/migratory habitat present; primary constituent elements are not present (physical and biological features necessary for the species' survival).
Yellow-billed cuckoo	*Coccyzus americanus*	C	Not confirmed	Highly dependent on old-growth riparian woodlands with dense understories. Records in Colorado come from cottonwood riparian areas. Only potential suitable habitat is along Colorado River at Una
Lynx	*Lynx canadensis*	T	Not confirmed	Non-lynx habitat; primary constituent elements are not present (physical and biological features necessary for the species' survival).
Black-footed ferret	*Mustella nigripes*	E	Not confirmed	Unsuitable habitat; primary constituent elements are not present, no prairie dog colonies (physical and biological features necessary for the species' survival).

Species habitat suitability and occurrence was augmented with biological data acquired during field biological surveys conducted during 2007 (WWE 2007) along the pipeline alignment. Consultation with the Fish and Wildlife Service (USFWS) was conducted in accordance with section 7 of the Endangered Species Act (16 U.S.C.1531 *et seq.*). A Biological Assessment (BLM 2008) was submitted and the FWS provided a Biological Opinion dated August 20, 2008 (USFWS 2008). Agency sensitive species and Birds of Conservation Concern (BOCC) are addressed in Section 3.1.7.b and in the wildlife sections of this EA. According to the LHA for the Battlement Mesa Area (BLM 2000), Standard 4 for all Special Status Species is being met.

T&E PLANT SPECIES

Colorado Hookless Cactus (SCGL3): *Sclerocactus glaucus* is associated with the desert shrub community containing such species as shadscale *(Atriplex confertifolia),* galleta *(Hilaria jamesii),* Indian ricegrass *(Oryzopsis hymenoides),* hedgehog cactus *(Echinocereus triglochidiatus*), dropseed *(Sporobolus cryptandrus),* prickly-pear cactus *(Opuntia polyacantha),* yucca *(Yucca harrimaniae),* and snakeweed *(Guttierezia sarothae).* Populations of this species

are associated with widely scattered piñon-juniper and piñon-juniper woodlands in Colorado (http://fwie.fw.vt.edu/WWW/esis/lists/e706002.htm).

This species is known to occur in the De Beque area in habitat associations similar to those occurring along the pipeline alignment. No critical habitat rules have been published for the Colorado hookless cactus (http://ecos.fws.gov/speciesProfile/SpeciesReport.do?spcode=Q21I). This species is further addressed in the Biological Assessment prepared as part of the pipeline project proposal.

Eighty-six live and eight dead *Sclerocactus glaucus* plants were observed along and adjacent the proposed pipeline alignment and alternatives during biological surveys conducted during 2007 (WWE 2007, WWE 2008) (Table 3.1.7.a-2). Field observations were recorded as single individuals or in groups if numerous cacti were found in close association.

Table 3.1.7.a-2. Number, location, and elevation of *Sclerocactus glaucus* found during surveys (2007-2008) for the EnCana Collbran pipeline project

Cactus Site	Elevation	Number of Live Plants at Point	Number of Dead Plants at Point
SG1	5947	1	
SG2	5936	1	
SG3	5977	1	
SG4	5945	3	
SG5	5915	1	
SG6	5977	1	
SG7	5968	1	
SG8	5974	1	
SG9	5982	1	
SG10	5958		1
SG11	5945	1	
SG12	5932	1	
SG13	5958	1	
SG14	5980		1
SG15	5949	1	
SG16	5979	2	
SG17	5976	2	
SG18	5967	5	
SG19	5958		1
SG20	5962	5	
SG21	5938	10	
SG22	6009	1	
SG23	5973		1
SG24	5979		1
SG25	5947	1	
SG26	5960	1	
SG27	5962	1	
SG28	5982	4	

Table 3.1.7.a-2. Number, location, and elevation of *Sclerocactus glaucus* found during surveys (2007-2008) for the EnCana Collbran pipeline project

Cactus Site	Elevation	Number of Live Plants at Point	Number of Dead Plants at Point
SG29	5974	1	
SG30	5950	1	1
SG31	5986	3	
SG32	5992	1	
SG33	5934	1	
SG34	5966	2	
SG35	6006	4	
SG36	6029	1	
SG37	6021	1	
SG38	6010	1	
SG39	5973	2	
SG40	5965	1	
SG41	5968	1	
SG42	5946	3	
SG43	5980	1	
SG44	5971	1	
SG45	5980	1	
SG46	6003	1	
SG47	6003	1	
SG48	6018	1	
SG49	5997	1	
SG50	5935	1	
SG51	6010	1	
SG52	6017	1	
SG53	5983	2	
SG54	5966	1	
SG55	5933		2
SG56	5943	1	

The cacti were found in three concentration areas along the southern segment of the pipeline alignment in an area known locally as Sunnyside (Anderson Gulch to upper Little Horsethief Creek). Twenty-one of the plants were estimated by biologists to be within the pipeline ROW corridor and may be directly affected by project construction. Locations of single plants and groups were documented during the WWE biological survey (WWE 2007, WWE 2008). At the request of FWS, WWE determined the number of plants within 65 feet (20 meters) of the edge of existing disturbance along Sunnyside Road. 14 plants were found to be within 65 feet (20 meters) of the existing road disturbance. All locations were within the Grand Junction Resource Area. There are no other known occurrences of the species along the pipeline alignment outside of those found during 2007 surveys (Lambeth, personal communication.).

Sclerocactus glaucus grows on alluvial river terraces above the flood plain and, specifically, on gravelly or rocky soils of dry alkaline hills and mesas. The cactus rarely grows in clay soils or deep riparian alluvium. It is found on varying exposures, at elevations ranging from 4,000 - 5,800 ft in cold desert shrub and piñon-juniper communities along river benches, valley slopes, and rolling hills. Maximum known elevation is 6,000 ft (Spackman et al 1997). (Maximum elevation found during WWE surveys was 6021 feet.) Slope in occupied habitat is typically between 5-30 percent.

Soils where the cacti were found along the pipeline alignment included Barx loam, Dominguez clay loam, Torriorthents warm-rock outcrops complex. These soil types compose approximately 49 percent of the total soils encountered along the proposed pipeline alignment, which indicates a high proportion of potentially suitable habitat occurs along the ROW.

De Beque Phacelia (PHSCS3**):** This species is endemic to the De Beque/Lower Roan Creek/Horsethief Canyon area in the lower Colorado River Valley in Colorado and was listed by the USFWS as a candidate species in 1990.

Phacelia submutica is associated with the desert shrub community containing such species as Rocky Mountain thistle *(Cirsium perplexans),* Wyoming sagebrush, *(Artemisia tridentata* subsp. *wyomingensis),* shadscale, galleta, Indian rice grass, hedgehog cactus, prickly-pear cactus, yucca and snakeweed. Populations of this species are associated with widely scattered piñon-juniper and piñon-juniper woodlands in Colorado. Maximum known elevation is 6,200 ft. (Spackman et al. 1997).

Seeds usually germinate in early April (Burt and Spackman 1995) and plants flower from late April through late June (O'Kane 1987). Fruit set is from mid-May through late June. Individuals finish their life cycle by late June to early July, after which time they dry up and blow away. The species grows in a habitat with wide temperature fluctuations, long drought periods and erosive saline soils. Upon drying, the soils form deep cracks. Seeds are believed to plant themselves by falling into the cracks that close when wetted, thus, covering the seeds (O'Kane 1988). Seed dormancy may be controlled by moisture, temperature and light. A persistent seed bank seems to be a requirement for continued survival of this species (Ladyman 2003).

De Beque phacelia is restricted to exposures of dark gray and brown clay soils derived from the Atwell Gulch and Shire members of the Wasatch Formation (Donnell 1969, O'Kane 1987). These expansive clay soils are found on moderately steep slopes, benches and ridge tops adjacent to valley floors in the occupied habitat.

This species is currently known to occupy 586 acres (Decker et al. 2007, CNHP 2008) of habitat, which is limited to scattered outcrops of Atwell Gulch and Shire members of the Wasatch Formation over a range of about 17 miles by 17 miles (Burt and Spackman 1995). The species' known range is restricted to the Piceance Basin near the town of De Beque in Garfield and Mesa Counties in western Colorado (Ladyman 2003). The BLM has documented this species north of Rulison near the base of Anvil Points (CNHP 2007).

The Collbran pipeline alignment passes through occupied and potentially (suspected) suitable habitat for this species. Biological surveys conducted in 2007 (WWE 2007) identified four subpopulations of this species and an additional seven sites were identified where soils and habitat appeared suitable for this species (Table 3.1.7.a-3). One occupied site was on BLM lands and the other three were on fee lands. Three hundred eighty-two individual plants were observed. All sites were within the Grand Junction Resource Area.

Subsequent to 2007 biological surveys, the USFS (October 2008) provided information on five additional sites that were being monitored by the USFS within and adjacent to the Project Area. Four of the sites are on FS lands and one is on BLM lands. This new information added 20 plants known to occur on BLM lands potentially affected by project development (Table 3.1.7.a-3).

- CNHP records indicate that there are an additional 10 De Beque *Phacelia* sites on the GMUG and WRNF, which are located east of and outside the pipeline ROW and therefore would not be directly affected by project actions. The closest site is located approximately 140 yards east of the pipeline ROW.

Table 3.1.7.a-3. Number of Occupied and Suspected *Phacelia submutica* Sites Potentially Affected by the Collbran Pipeline Project.

Potential Site or Number of Plants	Within ROW alignment/Alternative	Landownership
Potential Site	No/Proposed Alternative	Private
Potential Site	No/Proposed Alternative	Private
300+	No/Proposed Alternative	Private
50+	No/Proposed Alternative	Private
20+	No/Proposed Alternative	Private
Potential Site	No/Proposed Alternative	Private
Potential Site	Yes/Proposed Alternative	BLM-GJFO
Potential Site	Yes/Proposed Alternative	BLM-GJFO
Potential Site	Yes/Proposed Alternative	BLM-GJFO
Potential Site	No/Proposed Alternative	BLM-GJFO
12	No/Proposed Alternative	BLM-GJFO
20	Yes/Proposed Alternative	BLM-GJFO
Occupied-unknown	Yes/Alternative A	GMUG

None of the four groups of *Phacelia submutica* found during the 2007 biological surveys was estimated to be within the construction ROW. The one recently reported (USFS) site on BLM lands would likely be affected by project development. Only one of the four reported USFS-GMUG sites is within the proposed ROW along Alternative A. The other three sites would not be directly affected by pipeline construction with the closest site estimated to be 140 yards east of the ROW. If Alternative A is selected, this site would be directly impacted by the pipeline, unless mitigation is required.

The three potential sites that appeared to have soils suitable for this species and were estimated to be within the pipeline ROW were surveyed in June 2008 as part of this EA development and

no plants were observed. The records provided by the USFS confirm that the two sites within the pipeline ROW supported *Phacelia* during 2007 surveys (Kim Potter, Julie Grode, and Barry Johnston).

Soils where the De Beque *Phacelia* were found along the pipeline alignment included Biedsaw-Sunup gravelly loam, Torriorthents warm-rock outcrops complex, Travessillo rock outcrop complex, and badlands. These soil types compose approximately 24 percent of the total soils occurring along the pipeline alignment, indicating a significant portion of the ROW has potential as suitable habitat.

T&E COLORADO RIVER FISH

The Colorado River would be crossed by suspending the pipeline on the superstructure of an unused steel bridge structure (old Una Bridge) that was formerly used to cross the Colorado River. A new concrete bridge has been constructed immediately downstream of the old bridge and this structure is currently used to the cross the river (Garfield County Road 300).

Four warm water fish species (Colorado pikeminnow, razorback sucker, humpback chub, and bonytail) inhabiting the lower warm water reaches of the Colorado River have been listed as endangered under the Federal Endangered Species Act (ESA) and critical habitat for these species has been designated (USFWS 1999). Detailed information regarding the affected environment including critical habitat within the 100 year flood plain of the Colorado River is presented in a Biological Assessment that was prepared for this project. Any Federal agency taking an action that may affect the species or critical habitat is required to consult with the USFWS. In addition to the current consultation, water use and depletions from the Colorado River system were previously addressed (USFWS 1994).

Federally listed, Colorado critical habitat for Colorado pikeminnow occurs in the upper Colorado River in Mesa and Garfield Counties. It extends in its 100-year floodplain from the Colorado River Bridge at exit 90 (Rifle town exit) north of Interstate 70 (T.6 S., R.93 W., Section 16 (6th Principal Meridian) to the Colorado-Utah state line. Additional critical habitat occurs in Utah.

Critical habitat for the humpback chub and bonytail is in Grand County, Utah, and in Colorado in Mesa County. The designated habitat in the Colorado River is from Black Rocks in T.10 S., R.104 W., Section 25 (6th Principal Meridian) downstream to Fish Ford in T. 21 S., R. 24 E., Section 35 (Salt Lake Meridian) in Utah. Black Rocks is located in Ruby Canyon below Grand Junction in the Colorado River.

The razorback sucker's designated critical habitat in Colorado includes Mesa and Garfield Counties. The habitat includes the Colorado River and its 100-year floodplain from Colorado River bridge at exit 90 (Rifle town exit) north off Interstate 70 (T.6 S., R.93 W., Section 16 (6th Principal Meridian) to WestWater Canyon in T.20 S., R.25 E., Section 12 (Salt Lake Meridian). Other designated habitat includes the Gunnison River and its 100-year floodplain from the Redlands Diversion Dam in T.1 S., R.1 W., Section 27 (Ute Meridian) to the confluence with the Colorado River in T.1 S., R.1 W., Section 22 (Ute Meridian).

None of the Colorado River endangered fish species are known to presently occupy suitable habitat in the general area where the pipeline crosses the river. The FWS has conducted electro-shocking surveys in the Colorado River from Beaver Tail Mountain (in De Beque Canyon) to Silt annually since 2004 in an effort to detect the presence of endangered fish species. According to the FWS in Grand Junction (Burdick, personal communication 2008), these surveys have not documented the presence any of the four Colorado River Fishes during this survey period.

EnCana would utilize a maximum of approximately 2.8 million gallons (8.6 acre-ft) of water for hydrostatic (strength) pipeline testing (EnCana 2007). Water would be obtained from EnCana's Colorado River water rights. Since the mid-1970s, USFWS has held that any depletion of water, large or small, anywhere in the Upper Colorado River basin, even far upstream of the occupied habitat, will adversely affect the endangered fish species and their designated critical habitat (Pitts 2006). Therefore, if any Federal agency takes an action (issues a permit, right-of-way/easement, provides funding) that allows a depletion to occur, or facilitates a depletion, the Federal agency is required to consult with USFWS. Consultation was conducted and the USFWS provided a Biological Opinion dated August 20, 2008.

Distribution and habitat used by Colorado pikeminnow, humpback chub, bonytail, and razorback sucker are summarized below.

Colorado Pikeminnow: The present distribution of this species includes the Green River below the confluence with the Yampa River; the lower Duchesne River in Utah; the Yampa River below Craig, Colorado; the White River from Taylor Draw Dam near Rangely, Colorado, downstream to the confluence with the Green River; the Gunnison River in Colorado; and the Colorado River from Palisade, Colorado, downstream to Lake Powell. The closest known currently occupied area is located in the Colorado River approximately 20 miles downstream of the western-most portion of the pipeline alignment. Habitat requirements of this species depend on the life stage and time of year. Young-of-the year and juveniles prefer shallow backwaters, while adults prefer pools, eddies, and deep runs (Miller et al. 1982).

Humpback Chub: Two populations of humpback chub occur in the Colorado River near the Colorado/Utah state line: WestWater Canyon in Utah and Black Rocks (west of Grand Junction) in Colorado. Smaller numbers also have been collected in the Yampa and Green Rivers in Dinosaur National Monument, Desolation and Gray Canyons on the Green River in Utah, Cataract Canyon on the Colorado River, and the Colorado River in Arizona. The closest occupied and critical habitat to the project area is Black Rocks in Ruby Canyon, Colorado. Humpback chub primarily lives in canyon areas with swift currents (Maddux et al. 1993).

Bonytail: The distribution of bonytail is limited to small, disjunctive populations in the Upper Colorado River Basin including the Yampa River in Dinosaur National Monument, Green River at Desolation and Gray Canyons, Colorado River at the Colorado/Utah border, and Cataract Canyon. This species primarily utilizes deep, canyon portions of rivers with swift currents (Maddux et al. 1993).

Razorback Sucker: The present distribution of this species is limited to the upper Green River in Utah, lower Yampa River in Colorado, and occasionally the Colorado River near Grand Junction,

Colorado. Habitat requirements for razorback sucker can be met in both riverine and reservoir environments. General habitat used by adults consist of eddies, pools, and backwaters during the non-breeding period (July through March) (Maddux et al. 1993). Runs, backwaters and flooded off-channel impoundments are used during breeding. Juveniles seem to prefer shallow water in backwaters, tributary mouths and off-channel impoundments.

T&E and Candidate BIRD SPECIES

Mexican Spotted Owl (MSO): The Mexican spotted owl is a federally endangered species that inhabits canyon and montane forest habitats across a range that extends from southern Utah and Colorado, through Arizona, New Mexico, and west Texas, to the mountains of central Mexico. In Utah, they breed and forage in steep-walled canyon complexes. These areas are typically cool, moist environments; however, owls have been located in dry, arid habitats with minimal vegetation (Mexican Spotted Owl Recovery Plan 1995). The common characteristics of canyon sites is the presence of steep to vertical rock walls in all or part of the canyon. Foraging appears to occur primarily within the canyons or along the rim of the canyon (Willey 1995).

The northern-most location of a MSO was reported in Colorado by Willey (1995) in Dinosaur National Monument. The majority of known territories on the Colorado Plateau occur within Canyonlands National Park, Zion National Park, Capitol Reef National Park, Grand Canyon National Park and adjacent BLM and USFS lands.

This subspecies of the spotted owl is generally found associated with Douglas-fir/ponderosa pine side canyons in southern Colorado, through New Mexico and Arizona. It is also found in canyons in piñon-juniper woodlands.

MSO have not been documented yet on the WRNF or GMUG, but there is potential habitat in certain areas (BLM CO-130-2006-072 EA 2006). Breeding ranges occur up to 8,200 feet in elevation. This species has not been documented on the Rifle Ranger District and the only suitable habitat on the WRNF is believed to be in the Glenwood Canyon area approximately 55 miles east of the project area. The project area does not contain suitable rock cliffs and canyon-like habitat.

The USFWS has designated approximately 4.6 million acres of critical habitat for the MSO in Arizona, Colorado, New Mexico, and Utah, on Federal Lands. Critical habitat refers to specific geographic areas that are essential for the conservation of a threatened or endangered species and that may require special management considerations. A critical habitat designation does not set up a preserve or refuge and only applies to situations where Federal funding, authorization or permits are involved. Since no private, state or tribal lands have been designated, the designation would only affect activities on Federal lands. Three critical habitat areas have been established in Colorado, all are on the east slope near Colorado Springs and Pueblo. No critical habitat was designated in western Colorado.

Willey, who has studied Mexican spotted owls in the steep canyon lands of southern Utah, found that the rocky canyon habitat provided numerous rock cavities and ledges for roost and nest sites, and provided thermal and escape cover for both the adults and young. Willey found that during winter, when ambient temperatures decrease, spotted owls were observed roosting in more open habitats, and several moved up-slope into forested highlands. This suggests that the need for

thermal cover could partially explain the strong association between spotted owls and steep canyon habitat, and that these areas should be conserved while the owl is listed as threatened (http://www.cpluhna.nau.edu/Biota/endangered_species.htm).

Historic records include most of the Front Range and southwest Colorado. The owl may be found in steep-sided canyons with old growth mixed conifer forests in southwestern Colorado. It may also be found in the shady, cool canyons of the piñon-juniper zone. All nests in Colorado found to date occur on cliff ledges or caves along canyon walls. The Pike-San Isabel National Forest is the only Southern Rocky Mountain Geographic Area forest with known occurrences and critical habitat for the Mexican Spotted owl.

Yellow-billed Cuckoo: Yellow-billed cuckoos are candidates for federal listing that prefer open woodlands with clearings and a dense shrub layer. They are often found in woodlands near streams, rivers or lakes. In North America, their preferred habitats include abandoned farmland, old fruit orchards, successional shrubland and dense thickets. In western Colorado, preferred habitat appears to be restricted to Cottonwood woodlands along major river corridors including the Colorado, Yampa and Uncompahgre Rivers. Only three observations are noted in the Colorado Breeding Bird Atlas (Kingery 1998). The nearest recorded observation to the project area occurred in the Grand Valley near Grand Junction (Kingery 1998).

Yellow-billed cuckoos are fully migratory. In winter, yellow-billed cuckoos can be found in tropical habitats with similar structure, such as scrub forest and mangroves. Yellow-billed cuckoos are solitary or live in pairs during the breeding season. They may be territorial, but this aspect of their behavior is not well understood. They migrate at night in small groups or large flocks. Outside of migration, yellow-billed cuckoos are generally diurnal. Yellow-billed cuckoos primarily eat large insects including caterpillars, katydids, cicadas, grasshoppers and crickets. They also occasionally eat bird eggs, snails, small vertebrates such as frogs and lizards and some fruits and seeds.

Potential habitat for yellow-billed cuckoo along the pipeline alignment only occurs at the Colorado River crossing at Una Bridge. At this location, cottonwood galleries of sufficient size are found about 0.08 miles upstream and 0.25 miles downstream from Una Bridge. The upland, non-riparian, habitat in the project area is not typical habitat for this species. No critical habitat has been designated for the yellow-billed cuckoo (USFWS species profile 2008).

T&E MAMMAL SPECIES

Lynx: Suitable lynx habitat in Colorado is typically found at higher elevations in boreal forests. The CDOW (2008) reports that throughout the year Engelmann spruce/subalpine-fir was the dominant cover used by lynx. A mix of Engelmann spruce, subalpine-fir and aspen was the second most common cover type used throughout the year. Various riparian and riparian-mix areas were the third most common cover type where lynx were found during the daytime flights. Use of Engelmann spruce/subalpine-fir forests was similar throughout the year. There was a trend in increased use of riparian areas beginning in July, peaking in November, and dropping off December through June.

The specific biological and physical features, otherwise known as the primary constituent elements, essential to the conservation of the lynx are defined by the US Fish and Wildlife

Service (USFWS National Register 2006). They are defined as Boreal forest landscapes supporting a mosaic of differing successional forest stages and containing:

(a) Presence of snowshoe hares and their preferred habitat conditions, which include dense understories of young trees, shrubs or overhanging boughs that protrude above the snow,

(b) Winter snow conditions that are generally deep and fluffy for extended periods of time,

(c) Sites for denning that have abundant coarse woody debris, such as downed trees and root wads.

The project area is composed of predominantly deciduous and non-deciduous mountain shrubs and piñon-juniper woodland vegetation communities. It does not contain Engelmann spruce/subalpine-fir forest and deep winter snows typical of lynx habitat in Colorado. It is not suitable habitat for major lynx prey items including snowshoe hair and red squirrels. CDOW maps of radio-tracked lynx indicate no occurrence of lynx in the western portion of Battlement Mesa and no occurrences along the pipeline alignment (CDOW web site 2008).

The pipeline alignment is located approximately 23 miles west of the Battlement Mesa lynx linkage area (USFS 2004). This linkage area connects the Grand Mesa to Battlement Mesa through non-lynx habitat. Linkage areas are habitat corridors that provide movement opportunities. They exist on the landscape and can be maintained or lost by management activities or developments. They are not "corridors", which imply only travel routes; they are broad areas of habitat where animals can find food, shelter and security. Lynx linkage areas are intended to provide landscape-level linkages between forested landscapes across the WRNF and GMUG for forest carnivores and other wide-ranging wildlife species, including lynx (USFS 2002). Lynx linkage areas are managed to provide elements of habitat security for lynx travel.

No critical habitat for lynx has been established in Colorado (USFWS 2006). All Federal agencies have responsibility to ensure that any action authorized, funded, or carried out by that agency is not likely to jeopardize the continued existence of the species or result in the destruction or adverse modification of Critical Habitat (50 CFR 402), and to utilize their authorities to carry out programs for the conservation of the species.

3.1.7.b BLM and USFS Designated Sensitive Species

SENSITIVE PLANT SPECIES

The determination of the presence/absence of suitable habitat for sensitive plant species was based on previous WWE observations of typical habitat occupied by BLM or USFS sensitive plants, the CNHP Rare Plant Field Guide (Spackman et al. 1997), and locations of species documented in the CNHP statewide database.

Sensitive species of plants that may be present in the project area, and their habitats, are listed in Tables 3.1.7.a-1 and 3.1.7.b-3 below. Soils are mainly composed of reddish-brown material derived from the Wasatch formation, which is a suitable substrate for numerous sensitive plant species. The Green River Formation was not observed in the project area, but does occur at a

higher elevation on the west end of the Battlements. A number of sensitive plant species are restricted to shale talus slopes of the Green River Formation.

BLM Sensitive Plant Species: The following BLM list (Table 3.1.7.b-1) of sensitive plant species is more extensive than the Forest Service list due to the geographic location of the pipeline alignment and presence of soils and conditions that support a greater number of potential sensitive species. Both BLM and USFS list some of the same species as sensitive.

Table 3.1.7.b-1. Sensitive Plant Potentially Occurring on Grand Junction and Glenwood Springs BLM Lands in the Project Area

Species Common Name	Species Scientific Name	Habitat Description	Habitat or Species Potentially Occurring within Landscape Area
Jones blue star	*Amsonia jonesii*	Elevations between 4,500 and 6,000 feet; sandstone ledges and sandy washes	Habitat - No Species - No
De Beque milkvetch	*Astragalus debequaeus*	Varicolored, fine textured, seleniferous, saline soils of the Wasatch Formation-Atwell Gulch	Habitat- Yes Species- No
Starvling milkvetch	*Astragalus jejunus*	Dry hilltops, gullied bluffs, and barren ridges or river terraces; on tuff, shale, sandstone, or clays, 5,500-7,500 feet	Habitat- No Species- No
Grand Junction milkvetch	*Astragalus linifolius*	Elevations between 5,000 and 6,000 feet; sandy clay soils, Wingate sandstone, and piñon shrub	Habitat- No Species- No
Ferron milkvetch	*Astragalus musiniensis*	Gullied bluffs, knolls, benches, and open hillsides; in pinyon-juniper or desert shrub; mostly on shale, sandstone, or alluvium derived, from, 4,700-7,000 feet	Habitat- No Species- No
Naturita milkvetch	*Astragalus naturitensis*	Sandstone mesas, ledges, crevices, and slopes in pinyon-juniper, 5,000-7,000 feet	Habitat- Yes Species- Yes
Fisher Tower's milkvetch	*Astragalus piscator*	Sandy, sometimes gypsiferous soils of valley benches and gullied foothills, 4,300-5600 feet	Habitat- No Species- No
San Rafeal milkvetch	*Astragalus rafaelensis*	Gullied hills, washes, and talus under cliffs; in seleniferous clayey, silty, or sandy soils, 4,400-6,500 feet	Habitat- No Species- No
Rocky Mountain (adobe) thistle	*Cirsium perplexans*	Found on barren gray shale slopes 4,500-7,000 feet. Rock, cliff, and canyon habitat.	Habitat- Yes Species - Yes
Osterhout cryptanth	*Cryptantha osterhoutii*	Dry, barren sites, in reddish-purple decomposed sandstone, 4,500-6,100 feet	Habitat- No Species- No
Kachina daisy	*Erigeron kachinensis*	Saline soils in alcoves and seeps in canyon walls, 4,800-5,600 feet	Habitat- No Species- No
Grand buckwheat	*Eriogonum contortum*	Elevations between 4,500 and 5,100 feet; shales, badlands, and desert scrub	Habitat- No Species- No
Tufted green gentian	*Frasera paniculata*	Elevations between 4,000 and 5,000 feet; dry washes with juniper	Habitat - No Species - No
Narrowstem gilia	*Gilia stenothysra*	Silty gravelly loam and sage grasslands	Habitat - No Species - No

Table 3.1.7.b-1. Sensitive Plant Potentially Occurring on Grand Junction and Glenwood Springs BLM Lands in the Project Area

Species Common Name	Species Scientific Name	Habitat Description	Habitat or Species Potentially Occurring within Landscape Area
Piceance bladderpod	*Lesquerella parviflora*	Shale outcrops of the Green River Formation, on ledges and slopes of canyons in open areas, 6,200-8,600 feet; bluffs, ridges, barren slopes	Habitat - No Species - No
Wideleaf bisquitroot	*Lomatium latilobum*	Semi-desert, foothills, shrub lands, canyons, and springs. Colorado endemic found primarily in the Entrada and Navajo sandstones in Colorado National Monument.	Habitat - No Species - No
Dolores skelton plant	*Lygodesmia doloresensis*	Along Dolores River in canyon; sandy slopes	Habitat - No Species - No
Eastwood monkey-flower	*Mimulus eastwoodiae*	Elevations between 4,700 and 5,800 feet; shallow coves and seeps in canyon walls	Habitat - No Species - No
Roan Cliffs blazingstar	*Mentzelia rhizomata*	Broken shale talus slope of the Green River formation, Roan Creek and Parachute Creek	Habitat- No Species- No
Harrington's beardtongue	*Penstemon harringtonii*	Found 6,800-9,200 feet in open sagebrush or, less commonly, piñon-juniper habitat. Not documented in Mesa or Delta County.	Habitat - No Species - No
Sun-loving meadowrue	*Thalictrum heliophilum*	Sagebrush and piñon-juniper habitat in underdeveloped soils, light colored clays with shale fragments; 6,300-8,800 feet	Habitat - No Species - No

Two species of sensitive plants species were observed along the pipeline alignment during 2007 biological surveys (WWE 2007) including Naturita milkvetch and Rocky Mountain thistle (Table 3.1.7.b-2). These two species have been documented in the area in the past by other studies and the CNHP database lists some of these sites (CNHP 2007). Debeque milkvetch is known to occur in the De Beque area; however, it was not detected during project-specific biological surveys and is not shown in the CNHP database within the project area.

Table 3.1.7.b-2. Sensitive Plant Species and Suspected Sites Found During Biological Surveys of the Collbran Pipeline Project Area, 2007.

Number of Plants/Potentially Suitable	Within ROW Corridor/Alternative	Landownership
Naturita Milkvetch		
Potential Site	Yes/Proposed Action	BLM-GJFO
3	Yes/Proposed Action	BLM-GJFO
2	Yes/Proposed Action	BLM-GJFO
20	No/Alternative A	FS-GMUG
20	No/Alternative A	FS-GMUG
10	No/Alternative A	FS-GMUG

Table 3.1.7.b-2. Sensitive Plant Species and Suspected Sites Found During Biological Surveys of the Collbran Pipeline Project Area, 2007.

Number of Plants/Potentially Suitable	Within ROW Corridor/Alternative	Landownership
5	No/Alternative A	FS-GMUG
5	No/Alternative A	FS-GMUG
13	No/Alternative A	FS-GMUG
Potential Site	Yes/Proposed Action	BLM-GJFO
Rocky Mountain (adobe) Thistle		
4	No/Proposed Action	Private
Potential Site	No/Proposed Action	Private
6	Yes/Proposed Action	Private
100	Yes/Proposed Action	Private
5	No/Proposed Action	BLM-GJFO
3	No/Proposed Action	BLM-GJFO
1	Yes/Proposed Action	BLM-GJFO
30	Yes/Proposed Action	BLM-GJFO
15	Yes/Proposed Action	BLM-GJFO
5	Yes/Proposed Action	BLM-GJFO
1	No/Proposed Action	Private
15	Yes/Proposed Action	BLM-GJFO
40+	No/Proposed Action	Private
100+	No/Alternative A	FS-GUMG
20	No/Alternative A	FS-GMUG
6	No/Alternative A	FS-GMUG
5	No/Alternative A	FS-GMUG
5	Yes/Alternative A	FS-GMUG
80	No/Proposed Action	BLM-GJFO
4	No/Proposed Action	BLM-GJFO
2	No/Proposed Action	BLM-GJFO
6	No/Proposed Action	BLM-GJFO
20	No/Proposed Action	BLM-GJFO
100+	No/Proposed Action	BLM-GJFO
10	Yes/Proposed Action	BLM-GJFO
12	No/Proposed Action	BLM-GJFO
20	No/Proposed Action	Private
1000+	No/Proposed Action	Private
20	Yes/Proposed Action	Private
250	Yes/Proposed Action	BLM-GJFO
2000+	No/Proposed Action	BLM-GJFO
75	No/Proposed Action	BLM-GJFO
20+	No/Proposed Action	BLM-GJFO
1	Yes/Proposed Action	BLM-GJFO
6	No/Proposed Action	BLM-GJFO
50	No/Proposed Action	BLM-GJFO
10	No/Proposed Action	BLM-GJFO
6	No/Proposed Action	BLM-GJFO
10	Yes/Proposed Action	BLM-GJFO
1	No/Proposed Action	BLM-GJFO
12	No/Proposed Action	BLM-GJFO
20	No/Proposed Action	BLM-GJFO

Naturita Milkvetch: This species has been found in five counties in Colorado: Garfield, Mesa, Montezuma, Montrose, and San Miguel. Habitat of *Astragalus naturitensis* is found in piñon-juniper woodland and shrubland communities, in areas with shallow soils over exposed bedrock.

The species is usually located in small soil pockets or rock crevices in sandstone pavement along canyon rims. It is often associated with well-developed biological soil crusts.

Along the Proposed Alternative, two groups of Naturita milkvetch totaling five individual plants were observed to be within (WWE 2007) the Collbran pipeline ROW alignment. An additional two sites with habitat suitable for this species were also noted within the ROW.

Six Naturita milkvetch groups were detected during 2007 biological surveys along the Alternative A alignment on GMUG lands. The sites were close, but none were estimated to be within the Alternative A ROW. No Naturita milkvetch was observed on WRNF lands.

Rocky Mountain (Adobe) Thistle: The global distribution of *Cirsium perplexans* is limited to western Colorado, in the Colorado and Gunnison River valleys (Weber and Wittmann 2001b). According to Spackman Panjabi and Anderson (2004), there has been only one occurrence known from lands administered by the USFS, the Land's End Mountain location on Gunnison National Forest in the southeast corner of Delta County. Punjabi and Anderson (2004) also reported that the Horsethief Creek occurrence, located on BLM and private lands in northern Mesa County, appeared to be about a quarter-mile from NFS lands. The 2007 WWE survey noted four subpopulations that occurred on NFS lands.

An estimated 3,870 Rocky Mountain thistle plants were counted during WWE (2007) surveys in 36 separate subpopulations along the proposed pipeline alignment (Table 3.1.7.b-5). This species was noted over much of the mid to southern segment of the pipeline alignment. Twenty-eight of the subpopulations were found on BLM lands along the proposed alignment with eight of those potentially occurring within the pipeline ROW. Five groups were detected on FS-GMUG lands along Alternative A with two potentially being within the ROW. The remaining nine subpopulations were found on private lands with three sites within the proposed ROW.

De Beque Milkvetch: No De Beque milkvetch was observed during 2007 biological surveys along the pipeline alignment. This species has been documented in numerous locations in the Horsethief Creek drainage (CNHP 2008) and lower Shire Gulch during 2007 (WWE). The closest known location is approximately one mile south of the proposed route in the Atwell Gulch area. *Astragalus debequaeus* plants are found on fine-textured, sandy clay soils of the Atwell Gulch Member of the Wasatch Formation that are relatively barren, varicolored, seleniferous, and saline (Welsh 1985). The habitat is found between 4,970 and 6,500 ft elevation in Mesa and Garfield Counties, Colorado. The species is known from 17 occurrences that occupy about 1,417 acres (CNHP 2006), although more recent discoveries in the De Beque, Parachute and Rulison areas have increased the known number of occurrences (WWE 2007).

USFS Sensitive Plant Species: The USFS list of sensitive species (Table 3.1.7.b-3) contains eight potential plants that may occur along the proposed pipeline alignment and alternatives.

Rocky Mountain thistle was detected at five sites on GMUG lands along Alternative A and is also a BLM listed species; the affected environment is addressed under the BLM sensitive plant species section above and in Table 3.1.7.b-2. No sensitive species were observed on WRNF lands along the proposed alignment.

Table 3.1.7.b-3. List of Potential Forest Service Sensitive Plant Species that may Occur

Species Common Name	Species Scientific Name	Habitat Description	Habitat or Species Potentially Occurring within Landscape Area
Lesser panicled sedge	*Carex diandra*	Fens, calcareous meadows 6,100-8,600 feet.	Habitat - No Species - No
Lesser bladderwort	*Utricularia minor*	Fens, wetlands	Habitat- No Species- No
Sphagnum moss	*Sphagnum angustifolium*	Fens, wetlands	Habitat- No Species- No
Slender cottongrass	*Eriophorum gracile*	Fens, wet meadows and pond edges from 8,100-12,000 ft. Found on Grand Mesa.	Habitat- No Species- No
Rocky Mountain (adobe) thistle	*Cirsium perplexans*	Found on barren gray shale slopes 4,500-7,000 feet. Rock, cliff, and canyon habitat.	Habitat- Yes Species - Yes
Harrington's beardtongue	*Penstemon harringtonii*	Found 6,800-9,200 feet in open sagebrush or, less commonly, piñon-juniper habitat. Not documented in Mesa County.	Habitat - No Species - No
Sun-loving meadowrue	*Thalictrum heliophilum*	Sagebrush and piñon juniper habitat in underdeveloped soils, light colored clays with shale fragments; 6,300-8,800 feet	Habitat - No Species - No
Wetherill milkvetch	*Astragalus wetherillii*	Big sagebrush and piñon juniper habitat. Steep slopes, canyon benches, and talus below cliffs. On sandy clay soils derived from shale and sandstone 5,250-7,400 feet.	Habitat - Yes Species - No

Wetherill Milkvetch: A narrowly restricted endemic species from the Colorado Plateau, most commonly on Mancos or Green River shale formations. About 36 populations have been recorded, with a small percentage on USFS lands. Threats are well documented and include oil and gas exploration and development, road construction, grazing and mining. The CNHP database (2007) shows one record of Wetherill milkvetch in the vicinity of Atwell Gulch about 0.3 miles south of V Road (Sunnyside road). No Wetherill milkvetch was observed along the pipeline alignment during biological surveys conducted during 2007 (WWE).

SENSITIVE AQUATIC WILDLIFE SPECIES

Generally, the Colorado River supports warm water fish species, including threatened, endangered and sensitive species, while Plateau Creek and Wallace Creek support cold water species. The pipeline alignment does not directly intersect Plateau Creek with it closest point approximately 1.1 miles from the south end of the alignment. The pipeline alignment intersects Wallace Creek near its confluence with the Colorado River, but does not affect the perennial segment of the drainage. According to the LHA for the Battlement Mesa Area (BLM 2000), waters are functioning in their capacity to support and sustain aquatic life.

Table 3.1.7.b-4. BLM Sensitive Aquatic Species, Habitat Description and Potential of Occurrence

Species Common Name	Species Scientific Name	Status	Habitat Description	Habitat or Species Potentially Occurring within Landscape Area
Bluehead sucker	*Catostomus discobolus*	Sensitive Species	Colorado River Basin Drainage: Variety of habitat, headwater streams to large rivers.	Habitat - Yes Species - No
Colorado River cutthroat trout	*Oncorhynchus clarki pleuriticus*	Sensitive Species	Headwater streams and lakes.	Habitat - No Species - No
Flannelmouth sucker	*Catostomus latipinnis*	Sensitive Species	Deep slow flowing pools in large rivers	Habitat - Yes Species - No
Roundtail chub	*Gila robusta*	Sensitive Species	Colorado River Basin Drainage: Variety of habitat, usually in slow flowing water adjacent to fast moving water	Habitat - Yes Species - No

Table 3.1.7.b-5. Forest Service Sensitive Aquatic Species, Habitat Description and Potential of Occurrence.

Species Common Name (National Forest)	Species Scientific Name	Habitat Description	Habitat or Species Potentially Occurring within Project Area
Bluehead sucker	*Catostomus discobolus*	Colorado River Basin Drainage: Variety of habitat, headwater streams to large rivers.	Habitat - Yes Species - No
Mountain sucker	*Catostomus platyrhynchus*	Headwater tributaries of Colorado River downstream to mid-elevation, low gradient, slow-moving water	Habitat - No Species - No
Flannelmouth sucker	*Catostomus latipinnis*	Deep slow flowing pools in large rivers	Habitat - Yes Species - No
Roundtail chub	*Gila robusta*	Colorado River Basin Drainage: Variety of habitat, usually in slow flowing water adjacent to fast moving water	Habitat - Yes Species - No

Flannelmouth Sucker, Bluehead Sucker, and Roundtail Chub: These three species are indigenous to the Colorado River in the Una Bridge area along the pipeline alignment (Elmblad 2008 personal communication). They inhabit all riverine habitat types including riffles, runs, eddies, and backwaters. CNHP records (2007) indicated roundtail chubs have been found in aquatic sampling upstream and downstream of Una Bridge where the pipeline crosses the Colorado River. This habitat is not directly affected by the project but potential affects could occur in actions taken using water during hydrostatic testing.

SENSITIVE TERRESTRIAL WILDLIFE SPECIES

The analysis of the sensitive species affected environment was conducted using an approach similar to that used for the T&E species. It addresses the geographic location of the project and an analysis of species that potentially would be affected. During the analysis, species and habitats, which would be affected directly and indirectly by construction disturbance and associated human caused activities, were taken into consideration.

The USFS and BLM sensitive species status lists overlap with some species occurring on both lists. To facilitate the analysis, both agency lists are presented with information on those species potentially affected by project actions. The USFS list typically lists species that tend to occur at higher elevations where federal lands are predominantly managed by this agency. The affected environment analysis follows the species lists.

Information used to generate the sensitive species lists (Tables 3.1.7.b-6 and 3.1.7.b-7) are based on species status, distribution, and ecology. It was derived from species accounts, CNHP data and reports, USFS, BLM and CDOW, forest-wide resource management plans, personal professional knowledge of USFS, BLM, FWS and consultant biologists, various scientific studies and reports, and information contained in the USFS, USFWS, and other internet-based references.

Table 3.1.7.b-6. BLM Sensitive and BOCC Species, Habitat Description and Potential of Occurrence

Species Common Name	Species Scientific Name	Status	Habitat Description	Habitat or Species Potentially Occurring within Landscape Area
MAMMALS				
Fringed myotis	*Myotis thysanodes*	Sensitive Species	Inhabits caves, mines, and buildings in low elevation conifer and oak brush shrub lands up to 7,500 feet. Forages over associated riparian habitat.	Habitat - Yes Species - No records, potential occurrence
Yuma myotis	*Myotis yumanenisis*	Sensitive Species	Inhabits dry shrubby country, appears to be tied more closely to water than any of Colorado's other bats. Typical habitat is in piñon-juniper woodland and riparian woodland in semi desert valleys. Roost in caves, crevices or abandoned buildings. Forage over water, along streams, over springs, among riparian or shoreline vegetation. Does not hibernate in Colorado. They arrive in Colorado in April and are scarce in September.	Habitat - Yes Species - No
Big free-tailed bat	*Nyctinomops macrotis*	Sensitive Species	Frequents rocky or canyon country, roosts in crevices. Migratory and individuals wander as far north as Canada. Little is known of mortality and longevity.	Habitat - No Species - No

Table 3.1.7.b-6. BLM Sensitive and BOCC Species, Habitat Description and Potential of Occurrence

Species Common Name	Species Scientific Name	Status	Habitat Description	Habitat or Species Potentially Occurring within Landscape Area
Spotted bat	*Euderma maculatum*	Sensitive Species	Has been found in a variety of habitats, including ponderosa pine, piñon-juniper woodland and shrub desert. Early researchers suggested that this bat favored ponderosa pine forests, but more recent investigations suggest that the species may prefer areas with cliffs and water.	Habitat - Yes Species - No
Townsend's big-eared bat	*Corynorhinus townsendii*	Sensitive Species	Forages in semi-desert shrub lands, piñon-juniper woodlands and open montane forests. Roosts in caves, mines, buildings and crevices.	Habitat - No Species - No
BIRDS				
American three toed woodpecker	*Picoides dorsalis*	Sensitive Species	Species is resident in mature and old growth stands of spruce/fir.	Habitat - No Species - No
American peregrine falcon	*Falco peregrinus anatum*	Sensitive Species and BOCC	Species nests on high cliffs overlooking rivers/lakes and forages over forests and shrub lands.	Habitat - No Species - No
Barrow's goldeneye	*Bucephala islandica*	Sensitive Species	Tree cavity-nester in beetle-killed trees in the Flat Tops Wilderness. Occurs along the Colorado River during winter months.	Habitat - No Species - No
Snowy plover	*Charadrius alexandrinus nivosus*	Sensitive Species and BOCC	Breed in Colorado only in manmade habitats along reservoir edges in the San Luis Valley and southeast Colorado.	Habitat - No Species - No
Ferruginous hawk	*Buteo regalis*	Sensitive Species and BOCC	Habitat is large expanses of grassland and shrubland with varied topography, including hills, ridges and valleys.	Habitat - No Species - No
Black tern	*Charadrius niger*	Sensitive Species	Breeds in freshwater marshes. Northwest Colorado occurrence only in Jackson County.	Habitat - No Species - No
Swainson's hawk	*Buteo swainsoni*	BOCC	Typically, arid grassland, desert, agricultural areas, shrub lands and riparian forests. Nests in trees in or near open areas.	Habitat - No Species - No
Gunnison sage-grouse	*Centrocercus minimus*	Sensitive Species and BOCC	Nests in extensive sagebrush steppe shrub lands. Habitat is located south of I-70, mainly in the Gunnison Basin	Habitat - Yes Species - No, historic records
Greater sage-grouse	*Centrocercus urophaianus*	Sensitive Species	Nests in extensive sagebrush steppe shrublands. Occupies a broad range in northwest Colorado. Populations are declining with populations extirpated along the I-70 corridor from De Beque to Silt.	Habitat - Yes Species - No, historic records
Long-billed curlew	*Numernius americanus*	Sensitive Species and BOCC	Nests mostly on short grass prairies. Possible breeder in the Grand Valley.	Habitat - Yes Species - No

Table 3.1.7.b-6. BLM Sensitive and BOCC Species, Habitat Description and Potential of Occurrence

Species Common Name	Species Scientific Name	Status	Habitat Description	Habitat or Species Potentially Occurring within Landscape Area
American white pelican	*Pelecanus erythrorhynchos*	Sensitive Species	Nests on islands in North Park, migrant through the Grand Valley and sometime on ponds along Colorado River	Habitat - No Species - No
White-faced ibis	*Plegadis americanus*	Sensitive Species	Early migrant, nests in marshy wetlands in the San Luis Valley	Habitat - No Species - No
Flammulated owl	*Otus flammeolus*	Sensitive Species and BOCC	Nests in cavities in aspen and aspen mixed with conifer habitat to 10,000 feet, foraging close to nest sites, may forage over shrublands.	Habitat - No Species - No
Lewis's woodpecker	*Melanerpes lewis*	Sensitive Species and BOCC	Inhabits lowland and foothill riparian areas and nests in decadent cottonwoods up to 8,000 feet.	Habitat - No Species - No
Loggerhead shrike	*Lanius ludovicianus*	Sensitive Species and BOCC	Species inhabits open country with available lookout perches, especially semi-desert shrublands.	Habitat - Yes Species - No
Northern goshawk	*Accipiter gentilis*	Sensitive Species	Mixed hardwoods and conifers in stands of mature timber above 7,500 feet.	Habitat - No Species - No
Northern harrier	*Circus cyaneus*	Sensitive Species and BOCC	Nests and forages in dense portions of open montane grasslands and wet meadows.	Habitat - No Species - No
Olive-sided flycatcher	*Contopus cooperi*	Sensitive Species	This species breeds primarily in mature spruce/fir or Douglas fir forests.	Habitat - No Species - No
Purple martin	*Progne subis*	Sensitive Species	Species forages in open grassy parks, shores of lakes, meadows and around ponds; prefers aspen habitat near open water or wet meadows. Nests in mature aspen stands.	Habitat - No Species - No
Sage sparrow	*Amphispiza belli*	Sensitive Species and BOCC	Low-elevation sagebrush habitat in >30 ac. patches	Habitat - Yes Species - Yes
Prairie falcon	*Falco mexicanus*	BOCC	Nests in high cliffs, may forage widely.	Habitat - No Species - No
Brewer’s sparrow	*Spizella breweri*	Sensitive Species	Inhabits sagebrush dominated shrublands; may also be found in alpine willow stands.	Habitat - Yes Species - Yes
Gray Vireo	*Vireo vicinior*	BOCC	Piñon-juniper woodland, typically along the Colorado-Utah border, but found in Central Mesa County.	Habitat - Yes Species - Yes
Virginia’s warbler	*Vermivora verginiae*	BOCC	Dense shrublands and scrub forests of Gambel oak, piñon-juniper, mountain mahogany or ponderosa pine	Habitat - No Species - No
Golden eagle	*Aquila chrysaetos*	BOCC	Nests in high cliffs, but can forage over piñon-juniper woodlands	Habitat - Yes, foraging Species - No
Pinyon jay	*Gymnorhinus cyanocephalus*	BOCC	Nests, communally, in mature piñon-juniper woodlands. Early nester usually completed by June 1.	Habitat - Yes Species - Yes

Table 3.1.7.b-6. BLM Sensitive and BOCC Species, Habitat Description and Potential of Occurrence

Species Common Name	Species Scientific Name	Status	Habitat Description	Habitat or Species Potentially Occurring within Landscape Area
Black-throated gray warbler	*Dendroica nigrescens*	BOCC	Inhabits mature piñon-juniper woodlands.	Habitat - Yes Species - Yes
AMPHIBIANS				
Northern cricket frog	*Acris crepitans*	Sensitive Species	Subalpine forest habitats with marshes, wet meadows, streams, beaver ponds, and lakes.	Habitat - No Species - No
Canyon tree frog	*Hyla arenicolor*	Sensitive Species	Occurs along intermittent streams in deep, rocky canyons. Found in Mesa County south of the Colorado River and along the Dolores River.	Habitat - No Species - No
Great Basin spadefoot	*Spea intermontana*	Sensitive Species	Inhabits piñon-juniper woodlands, sagebrush, and semi-desert shrublands.	Habitat - Yes Species - No
Northern leopard frog	*Rana pipiens*	Sensitive Species	Wet meadows, marshes, beaver ponds, and streams.	Habitat - No Species - No
REPTILES				
Midget faded rattlesnake	*Crotalus viridis concolor*	Sensitive Species	Piñon-juniper woodlands, sagebrush steppe, rocky canyons and outcrops	Habitat - Yes Species - No
INSECTS				
Great Basin silverspot	*Speyeria nokomis nokomis*	Sensitive Species	Inhabits wetlands fed by springs or seeps; host plant violets at 5,200-9,000 feet.	Habitat – No Species - No

Table 3.1.7.b-7. Forest Service Sensitive Species, Habitat Description and Potential of Occurrence

Species Common Name (National Forest)	Species Scientific Name	Habitat Description	Habitat or Species Potentially Occurring within Project Area
MAMMALS			
Fringed myotis	*Myotis thysanodes*	Inhabits caves, mines, and buildings in low elevation conifer and oak brush shrublands up to 7,500 feet. Forages over associated riparian habitat.	Habitat – Yes Species – No
Pygmy shrew	*Sorex hoyi*	Moist boreal environments, forest generalist, all captures of this species in Colorado have occurred above 9,600 feet.	Habitat – No Species - No
River otter	*Lontra canadensis*	Riparian habitats that traverse a variety of other habitats, mainly large river systems.	Habitat – No Species – No

Table 3.1.7.b-7. Forest Service Sensitive Species, Habitat Description and Potential of Occurrence

Species Common Name (National Forest)	Species Scientific Name	Habitat Description	Habitat or Species Potentially Occurring within Project Area
Spotted bat	*Euderma maculatum*	Has been found in a variety of habitats, including ponderosa pine, piñon-juniper woodland and shrub desert. Early researchers suggested that this bat favored ponderosa pine forests, but more recent investigations suggest that the species may prefer areas with cliffs and water.	Habitat – Yes Species – No
Townsend's big-eared bat	*Corynorhinus townsendii*	Forages in semi-desert shrublands, piñon-juniper woodlands and open montane forests. Roosts in caves, mines, buildings and crevices.	Habitat - No Species - No
Wolverine	*Gulo gulo*	Inhabits undisturbed high boreal forests and tundra near timberline.	Habitat – No Species - No
Marten	*Martes americana*	Moist boreal environments, forest generalist, above 9,000 ft elevation	Habitat – No Species - No
Rocky Mountain bighorn sheep	*Ovis canadensis canadensis*	Species is usually found in rugged mid to high elevation terrain. Low elevation herds exist in piñon-juniper canyon lands in western Colorado	Habitat- Yes Species- within CDOW mapped range
Desert bighorn	*Ovis canadensis nelsoni*	Deserts, canyons at lower elevations, south of Colorado River.	Habitat- No Species- No
BIRDS			
American three-toed woodpecker	*Picoides dorsalis*	Species is resident in mature and old growth stands of spruce/fir.	Habitat – No Species - No
American peregrine falcon	*Falco peregrinus anatum*	Species nests on high cliffs overlooking rivers/lakes and forages over forests and shrublands.	Habitat – No Species - No
Bald eagle	*Haliaeetus leucocephalus*	Nests in tall trees along large lakes and rivers, including the lower Colorado River; winters in a variety of habitats	Habitat – Yes, may occasionally forage in upland habitats, winter roosts along Colorado River near Una Species – No records on FS or BLM lands
Black swift	*Cypseloides niger*	Species nests on high cliffs near or behind large waterfalls and forages high above the landscape over conifer forests.	Habitat - No Species - No
Ferruginous hawk (WR only)	*Buteo regalis*	Lower elevation, piñon-juniper and sagebrush	Habitat - No Species - No
Boreal owl	*Aegolius funereus*	Mature spruce/fir or spruce/fir-lodgepole forests.	Habitat - No Species - No
Columbian sharp-tailed grouse	*Tympanuchus phasianellus columbianus*	Inhabits sagebrush dominated shrublands, intermixed with grasslands and mountain shrublands.	Habitat - No Species - No
Flammulated owl	*Otus flammeolus*	Nests in cavities in aspen and aspen mixed with conifer habitat to 10,000 feet, foraging close to nest sites, may forage over shrublands.	Habitat – No Species – No

Table 3.1.7.b-7. Forest Service Sensitive Species, Habitat Description and Potential of Occurrence

Species Common Name (National Forest)	Species Scientific Name	Habitat Description	Habitat or Species Potentially Occurring within Project Area
Gunnison Sage-grouse (GMUG only)	*Centrocercus minimus*	Late-successional sagebrush steppe	Habitat - Yes Species – No, historic records, unknown species of sage-grouse
Greater Sage-grouse (WR only)	*Centrocercus urophasianus*	Late-successional sagebrush steppe	Habitat - Yes Species – No, historic records, unknown species of sage-grouse
Loggerhead shrike	*Lanius ludovicianus*	Species inhabits open country with available lookout perches, especially semi-desert shrublands.	Habitat – Yes Species – No
Northern harrier	*Circus cyaneus*	Nests and forages in dense portions of open montane grasslands and wet meadows.	Habitat - No Species - No
Olive-sided flycatcher	*Contopus cooperi*	This species breeds primarily in mature spruce/fir or Douglas fir forests.	Habitat - No Species - No
Purple martin	*Progne subis*	Species forages in open grassy parks, shores of lakes, meadows and around ponds; prefers aspen habitat near open water or wet meadows. Nests in mature aspen stands.	Habitat - No Species - No
Pygmy nuthatch (WR only)	*Sitta pygmaea*	Ponderosa pine	Habitat - No Species - No
Sage sparrow	*Amphispiza belli*	Low-elevation sagebrush habitat in >30 ac. patches	Habitat – Yes Species - Yes
AMPHIBIANS			
Boreal toad	*Bufo boreas boreas*	Subalpine forest habitats with marshes, wet meadows, streams, beaver ponds, and lakes.	Habitat - No Species - No
Northern leopard frog	*Rana pipiens*	Wet meadows, marshes, beaver ponds, and streams.	Habitat - No Species - No
INSECTS			
Great Basin silverspot	*Speyeria nokomis nokomis*	Inhabits wetlands fed by springs or seeps; host plant violets at 5,200-9,000 feet.	Habitat – No Species - No
Hudsonian emerald	*Somatochlora hudsonica*	Boggy ponds 7,600-10,600 feet.	Habitat - No Species - No

Sensitive species habitat suitability and occurrence was further refined based on field surveys conducted during 2007 (WWE 2007) along the pipeline alignment. Not all of the sensitive species addressed and evaluated for this EA occur regularly in Colorado, and some are present only as seasonal migrants. Of those known to occur in Colorado, only a portion are known or suspected to breed or occupy habitat within the vicinity of the proposed pipeline. For BOCC, WWE biologists conducted a thorough review of the literature (Andrews and Righter 1992, Kingery 1998), and compiled a list of species likely to nest in or around the project area. Bird

identification and taxonomic nomenclature are in accordance with that applied by the Colorado Breeding Bird Atlas Project (Kingery 1998).

BLM sensitive species were identified internally through field offices and externally with agencies and organizations dealing with management and tracking species of special concern. Early identification of these sensitive species is important in management of vulnerable species to prevent any future federal listing. BLM policy is that no action should be taken that would contribute to the species becoming listed as candidate species through actions funded, authorized, or implemented by BLM (BLM 2001).

Mammals

Fringed Myotis: The BLM and USFS list this species as sensitive. The fringed myotis is a species of coniferous forest and woodland at moderate elevations in Colorado. Records of occurrence are few, and the species isn't common in the state, but perhaps it is simply widely distributed. Typical vegetation of the habitat includes ponderosa pine, piñon pine, juniper, greasewood, saltbush and scrub oak. The animals roost in rock crevices, caves, mines, buildings and trees. They are known to hibernate in caves and buildings. Where this species has been studied well, migration seems to be limited. It occupies a variety of desert, grassland, and woodland habitats throughout western North America from British Columbia to southern Mexico. Fringed myotis occur within Mesa and Garfield Counties (CDOW 2007d) and may use piñon-juniper woodlands throughout the Project Area, but preferred roosting habitat including caves and mines is not available in the project area.

Spotted Bat: The BLM and USFS list this species as sensitive. The spotted bat has been found in a variety of habitats, including ponderosa pine, piñon-juniper woodland and shrub desert. Early researchers suggested that this bat favored ponderosa pine forests, but more recent investigations suggest that the species may prefer areas with cliffs and water. The species appears mostly solitary, forming small nursery colonies or groups in hibernation. Little is known about hibernation or annual movement patterns. Details of mortality are unknown, although known predators include kestrels and owls. This species may be found in the major canyons along the western border of the state and southeastern Colorado; the project area supports potential habitat.

Yuma Myotis: This species is listed as a sensitive species by the BLM. It is not listed by CDOW or USFS. Closely associated with water, the Yuma myotis feeds by flying very low over the surface, typically in forested areas. Its principal foods are midges, moths, termites, and other small insects. During the breeding season, the males usually remain alone. Nursery colonies form in places that have high, stable temperatures in the range of 86 to 131°F. Usually assembled in caves, mines, buildings, tree cavities, rock crevices, or under bridges or the bark of trees, these colonies may contain thousands of individuals. This species may utilize dry shrubland or woodland habitats adjacent to riparian areas, but usually forages over water (Fitzgerald et al. 1994). Yuma myotis roost in caves, crevices, abandoned buildings, other structures, and swallow nests. The species likely occurs within Mesa and Garfield (CDOW 2007d), and may use scattered snags for roosting, but preferred habitat and foraging areas is limited in the Project Area. The Yuma myotis apparently does not hibernate in Colorado, and its winter range is unknown. These bats arrive in Colorado about April, and they become difficult to find by September.

Rocky Mountain Bighorn Sheep: A small herd of Rocky Mountain bighorn sheep inhabit Battlement Mesa. This herd is an indigenous, low-elevation population that generally ranges from Horsethief Mountain on the west to about the West Fork of Kimball Creek on the east (NDIS 2008). Castle Peak is in the central portion of herd's main range on the Battlements. The herd numbers, estimated by CDOW, range from 30 to 35 animals (Duckett personal communication 2008). The CDOW and USFS have been actively managing the herd and the occupied range through habitat improvement project in an effort to increase numbers, genetic diversity and the quality of the habitat. Since 2005, the CDOW has been reintroducing small groups (total of 13 in 3 years) of Rocky Mountain bighorn sheep taken from the Basalt population south of Glenwood Springs, mainly in an effort to add genetic diversity (Duckett personal communication 2008).

The CDOW mapped (NDIS 2008) overall range extends to the west down into the foothills surrounding Horsethief Mountain on all sides. The CDOW indicates that the bighorn sometimes are found outside the mapped range; however, CDOW radio-telemetry data suggests this is uncommon (Duckett personal communication 2008). Bighorn sheep range throughout the existing habitat but are thought to spend a higher percentage of time during the summer in the eastern portion of the range. Free water, which sheep require, is commonly more available in the eastern portion of the overall range and there is a greater diversity and availability of forage.

Birds

Bald Eagle: The Bald Eagle is listed by the CDOW as a threatened species and the USFS as a sensitive species. It was recently (2007) de-listed by the USFWS as a federal threatened species. In northwest Colorado, bald eagles most commonly nest in cottonwood trees along major rivers including the Colorado, Yampa, and White Rivers. The same pair often reuses nests each year. Bald eagles feed on fish, small mammals, waterfowl and often carrion including winter-kill deer and elk carcasses.

The Colorado River riparian corridor, as well as adjacent uplands, provides suitable winter habitat for bald eagles. Winter habitat includes roosting habitat and foraging habitat. Suitable winter roosting habitat is typically cottonwood trees adjacent to major water ways and, less frequently, large conifers on adjacent mountain slopes. Roosting habitat tends to concentrate in cottonwood galleries or in single, more isolated trees. Due to the relatively moderate slope throughout the Colorado River Valley, the river has developed a meandering configuration which has created oxbows, sloughs and braided channels that is good habitat for raptors. The predominance of old age class, mature trees has created numerous suitable roosting sites for bald eagles. Large cottonwoods along the river also provide hunting perches for eagles when feeding on waterfowl or fish. On Plateau Creek, one heavily used bald eagle roost site is located in a cottonwood gallery near the Jerry Creek Reservoirs. In recent years, in excess of twenty birds have been counted at this roost site (Levad personal communication).

The CDOW monitors Bald Eagle populations and nests along the Colorado River as part of its ongoing management program. In April 2008, the Colorado Division of Wildlife (CDOW) identified a new active Bald Eagle nest, along the Colorado River southwest of Parachute. The nest is located in Section 34, T7S, R96W, which is approximately 4.3 southwest of Parachute, CO. The CDOW reported that an adult pair (CDOW, B. Gray) occupied the nest when first

observed in April of 2008. The nest is located approximately 0.25 miles southeast of the EnCana compressor station where the Collbran pipeline terminates.

It is likely that wintering bald eagles forage in the pipeline project area. During winter months (December 1- March 15) bald eagles significantly increase above summer population levels along the Colorado River in the Rulison to De Beque Canyon area. Winter roost sites and hunting perches are important habitat features for this species.

Golden Eagle: This species is listed by the USFWS as a BOCC. Golden eagles are common resident nesters in the Roan Cliffs north of I-70 and in northwest Colorado this habitat type is the primary nesting habitat. Golden eagles rarely nest in trees similar to those found along the pipeline alignment. The rocky ledges and low bluffs along the pipeline alignment are not of sufficient height or structure to be suitable nesting habitat for golden eagles. This species was observed by biologists (WWE 2007) flying in the project area during field surveys conducted as part of this pipeline project. Golden eagles hunt prey including mammals such as cottontail rabbits that inhabit the project area.

Gunnison or Greater Sage-Grouse: The sage-grouse is a BLM, USFS and CDOW species of special concern. Gunnison and greater sage-grouse populations require extensive, continuous areas of sagebrush-dominated habitat with vegetation dominated by sagebrush (*Artemisia tridentata* spp.) that generally lacks an overstory of mountain shrub or woodland vegetation.

The large expanses of Wyoming sagebrush habitat along the proposed alignment are considered potential pre-settlement habitat (CDOW draft Greater Sage-Grouse Rangewide Plan 2007). Since this area is south of the Colorado River, sage-grouse in this area may be considered Gunnison sage-grouse (CDOW Gunnison Sage-Grouse Rangewide Plan 2006), although without actual specimens the species of sage-grouse (Gunnison or greater), which occupied this area remains in doubt. The specific reasons for decline and likely extirpation of sage-grouse in this area are unknown, but likely include changes in land use, population isolationism, wild fire or lack there of, livestock grazing and vegetative treatments (disking, spraying and seeding). The last known observations of sage-grouse in the project area includes a flock of 10 to 12 birds during an aerial flight in the mid 1970s on mesas west of Shire Gulch (D. McVean, WWE, personal observation) and a single bird on Samson Mesa in the early 1980s (V. Graham, WWE, personal observation). Potter (personal communication 2008) reported observing sage-grouse droppings in the Sunnyside Reservoir area in the mid-1990s. Possible sage-grouse droppings were noted during field work for the wildlife Biological Assessment (WWE 2008). Sage-grouse from the Horsethief-Sunnyside area are likely to occur in low numbers and it is not known if breeding populations are present. Sage-grouse use in the area may represent winter migrants from the Roan Plateau population location north of De Beque.

The closest known greater sage-grouse population occurs in the Piceance Basin and on the Roan Plateau. The CDOW has observed sage-grouse on the Chimney Rock lek located on Long Point east of Roan Creek in 2006 (Duckett unpublished report 2006). The Chimney Rock lek is located about 12 miles north of Una Bridge. It is highly unlikely that a viable sage-grouse population exists in the project area. However, it has been speculated that the area may be sage-grouse winter range, used only during extremely harsh winter periods (Gumber personal communication 2007)

Black-throated Gray Warbler: Black-throated gray warblers were observed and are undoubtedly nesting throughout the piñon-juniper woodland habitat, although no nests were located during biological surveys conducted by WWE (2007). This species nests almost exclusively in mature piñon-juniper woodlands on horizontal branches in piñon or juniper (Kingery 1998). Nesting has been confirmed in Mesa and Garfield Counties. Piñon-juniper woodlands supporting suitable habitat for this species occurs on both federal and private lands along the pipeline alignment.

Sage Sparrow: A single sage sparrow was observed west of Horsethief Mountain on private lands and a nest with four eggs was found (WWE 2007). For nesting this species selects only sizable (>30 acres), low-elevation stands of big sagebrush or mixed big sagebrush and greasewood. CNHP records (2008) indicate the presence of this species in the project area near upper Shire Gulch and on Sampson Mesa. The Colorado Breeding Bird Atlas (Kingery 1998) records and WRNF biologists (Potter personal communication) confirm nesting in the upper Horsethief Creek area.

Brewer's Sparrow: This species prefer sagebrush, primarily big sagebrush species and is considered a sagebrush obligate species (Kingery 1998). Other shrub species that form similar stand characteristics, such as greasewood, hopsage, and saltbushes are also attract to nesting Brewer's sparrows. The Colorado Breeding Bird Atlas (Kingery 1998) shows confirmed and possible evidence of breeding in the pipeline project area and suitable habitat appears along much of the alignment. WRNF biologists (Potter personal communication) have confirmed the presence of this species in the project area. However, this species presence was not documented during biological surveys conducted during 2007 (WWE) along the pipeline alignment.

Loggerhead Shrike: Loggerheads shrikes are typically found in lowland riparian and piñon-juniper woodlands in Western Colorado. They select for habitat associated with greasewood, saltbush and sagebrush with thorny bushes for nesting. They prefer open county and select areas with scattered trees and shrubs. No breeding is known to occur in the project area (Kingery 1998). Potential habitat is located throughout the project area. However, nesting would not likely occur in the sagebrush dominated communities as they prefer to nest in trees.

Pinyon Jay: Piñon-juniper woodlands are the preferred habitat for this species. They nests in colonies in piñons or junipers. They are confirmed breeders in Mesa and Garfield Counties near the project area. Pinyon jays typically display defensive responses to human intrusion into their communal nesting habitats, which aid in the detection of nesting territories. Pinyon jays were observed throughout the project area, but no nesting was noted. Pinyon jays are an exception to typical nesting periods in this area and are known as an early nester. Records show nests with eggs as early as March 23 (Kingery 1998). Often young birds have fledged by mid-May each year. Construction occurring after May 31 in piñon-juniper woodlands would reduce the possibility of impacts to this species.

Gray Vireo: This species prefers forested mesas, steep hillside, canyons, and wide valleys where scattered juniper trees grow spaced apart. The habitat in the project area appears suitable for this species and Kingery (1998) indicates confirmed breeding evidence in the vicinity of Horsethief Mountain. However, breeding records (Kingery 1998) are more common along the extreme western Colorado border around the Grand Valley. This species was not documented during biological surveys conducted during 2007 (WWE). However, WRNF biologists (Potter

personal communication) have documented increasing numbers of this species breeding in suitable habitat in the project area.

Amphibians and Reptiles

Great Basin Spadefoot: This toad is listed by the BLM as a sensitive species. It is not listed by the USFS or CDOW. In Colorado, Great Basin spadefoot are found in piñon-juniper woodlands, sagebrush, and semi-desert shrublands (CDOW 2007e) where they utilize permanent and temporary water sources for breeding.(CDOW 2007e). The CDOW Herpetofaunal Atlas (CDOW 2008) contains no records of this species occurring within the project area. Records do occur in Main Canyon that flows into the Colorado River near Cameo in De Beque Canyon west of the project area.

Western (midget faded) Rattlesnake: The taxonomy and distribution of the midget faded rattlesnake in Colorado is not at all clear (Patton 2001). Apparent intergrades with the western rattlesnake *(C. v. viridus)* lead to confusion regarding the taxonomic status of the snake. In many areas, it is difficult to determine where *viridus* and *concolor* begin and end. Currently, there is consideration of making *concolor* a separate species or subspecies of the proposed new species *oreganus*.

C. v. concolor may occur on lower elevations of the WRNF and GMUG (Patton 2001). Habitat includes dry, uplands dominated by piñon-juniper/sagebrush communities and rocky, canyon and canyon-like terrain. This species/subspecies is known to occur in McInnis Canyon National Conservation Area, the Bookcliffs and drainages of the lower Gunnison River south of Grand Junction (Graham personal communication). It is not known to occur in the project area; however, terrain and vegetation are similar to sites where the snake has been observed in the Grand Valley area. The closest CNHP records (2007 database) are west of De Beque and in lower Parachute Creek a few mile north of Parachute, Colorado. The BLM (Plank 2008) reported a neonate midget faded was found within the Orchard Gap Project Area about two miles from the project area at the bottom of Little Horsethief Creek. It is assumed that a den occurs in the area.

3.1.8 Wastes, Hazard and Solid

BLM Instruction Memoranda numbers WO-93-344 and CO-97-023 require that all NEPA documents list and describe any hazardous and/or extremely hazardous materials that would be produced, used, stored, transported, or disposed of as a result of a proposed project. These practices are dictated by various Federal and State laws and regulations, and the BLM standard terms and stipulations which would accompany any authorization resulting from this analysis.

Hazardous materials are defined by the BLM as any substance, pollutant, or contaminant that is listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended, 42 USC 9601 et seq., and its regulations. The definition of hazardous substances under CERCLA includes any “hazardous waste” as defined in the Resource Conservation and Recovery Act (RCRA) of 1976, as amended, 42 USC 9601 et seq., and its regulations. The term does not include petroleum, including crude oil or any fraction thereof that is not otherwise specifically listed or designated as a hazardous substance under CERCLA Section 101(14), 42 USM 9601 (14), nor does the term include natural gas. No

hazardous or solid wastes are known to be present in the project area, and no hazardous materials are known to have been used, stored, or disposed onsite.

A variety of materials, including lubricants, solvents, treatment chemicals, welding gases, gasoline and diesel fuels, would be used in the construction activities. Potentially harmful substances used in the construction would be kept onsite in limited quantities and trucked to and from the site as required.

Most waste generated would be exempt from hazardous waste regulations under the exploration and production exemption of the RCRA. Examples of exempt wastes include process water and soils contaminated with hydrocarbons. While oil and gas lessees are exempt from RCRA, ROW holders are not exempt from this legislation. RCRA strictly regulates the management and disposal of hazardous wastes. No hazardous substance, as defined by 40 CFR 355 would be used, produced, stored, transported, or disposed in amounts above the threshold quantities.

Emergency response to hazardous materials or petroleum products on BLM managed lands are handled through the BLM contingency plan (referenced above). BLM would have access to regional resources if justified by the nature of an incident. As the project is proponent-driven, the contractor would be responsible for all required spill reporting and cleanup activities. This responsibility would be in effect regardless of surface ownership (USFS, BLM or private).

3.1.9 Water Quality, Surface and Ground (includes an analysis of Public Land Health Standard 5)

Surface Water: The beginning of the proposed route is approximately one mile from Plateau Creek. Near the terminus, the proposed route crosses the Colorado River approximately 7.5 northeast of De Beque and terminates on the north side of the river. The proposed route crosses 41 named and unnamed drainages. Only one, the Colorado River, is a perennial water body. The others are intermittent and ephemeral streams. Peak flooding events are caused by snowmelt and summer thunderstorms. Visual observations indicate that streams in the area typically carry high sediment loads. Stream channels are typically incised.

In the southern portion of the proposed route (locally known as Sunnyside) intermittent streams include Little Anderson Gulch, Jerry Gulch, Atwell Gulch, Shire Gulch and Sand Wash, from east to west These streams drain into Plateau Creek, which flows into the Colorado River to the west of project area. The pipeline alignment does not directly intersect Plateau Creek with its closest point approximately 1.1 miles from the south end of the alignment. The Jerry Creek Reservoirs are about 2.75 miles south of the pipeline route and are located near the southern end of Jerry Gulch. These reservoirs are owned by the Ute Water Conservancy District and supply domestic water to Grand Junction area municipalities and rural users. In the mid- and northern-portions of the proposed route, the streams drain directly into the Colorado River.

On the north side of the Battlements, intermittent stream drainages include Little Horsethief Creek, Horsethief Creek, Moffat and Smith Gulches, three unnamed drainages on Samson Mesa, Alkali Creek, Little Alkali Creek, and Wallace Creek. Wallace Creek is the largest drainage, which is perennial in the headwaters, but becomes intermittent in its lower reaches due in part to diversion for agricultural (hay) production. The pipeline alignment intersects Wallace Creek

near its confluence with the Colorado River and does not affect the perennial segment of the drainage.

Water quality standard and guidance for drainages within the Lower Colorado River Basin are included in CDPHE-Water Quality Control Commission (WQCC) Regulation No. 37 (2008). Portions of the project area are located within the Lower Colorado River Stream Segments 2, 5, 13a, and 15. Segment 2 is defined as the main stem of the Colorado River from below Parachute Creek to the Gunnison River confluences. Segment 5 is defined as all tributaries to the Colorado River, including wetlands, lakes and reservoirs, which are within the boundaries of the WRNF, except for the specific listing in Segment 9. Segment 13a is defined as all tributaries to the Colorado River including wetlands from below the Parachute Creek confluence to the Colorado/Utah border except for the specific listing in Segment 13b and 19. Segment 15 is defined as the main stem of Plateau Creek, including all tributaries, wetlands, lakes, and reservoirs, from its source to the confluence with the Colorado River.

Segment 2 (Colorado River) has been assigned the following use classifications: aquatic life warm 1, recreation 1a, water supply, and agriculture. Segment 5 (WRNF) has been assigned the following use classifications: aquatic life cold 1, recreation 1b, water supply, and agriculture. Segment 13a (Colorado River tributaries) has been assigned the following use classifications: aquatic life warm 2, recreation 1b and agriculture. Segment 15 (Plateau Creek) has been assigned the following use classifications: aquatic life cold 1, recreation 1a, water supply and agriculture. (CDPHE 2008). Descriptions of use classifications are:

- Aquatic Life Cold Water Class 1: These waters currently support or are capable of supporting cold-water biota with no impairment to the abundance of diversity of species.
- Aquatic Life Warm Water Class 1: These waters currently support or are capable of supporting warm water biota with no impairment to the abundance of diversity of species.
- Aquatic Life Warm Water Class 2: These waters currently can not support or are not capable of supporting warm water biota due to physical habitat, water flows or levels, or uncorrectable water quality conditions that result in substantial impairment of the abundance and diversity of species.
- Recreation Class 1a: Waters are suitable for recreation use in or on the water.
- Recreation Class 1b: Waters are suitable for use in or on the water, but where primary contact (i.e., swimming) has not been documented.
- Agriculture: waters are suitable for irrigation of crops or livestock use.
- Domestic Water Supply: These surface waters are suitable for potable water supplies following standard treatment.

A comprehensive list of numeric and narrative water quality standards are set for each stream segment based on its use classifications. A review of Colorado's 1989 Non-Point Source Assessment Report (plus updates), the 305(b) Report, the 303(d) List and the Unified Watershed Assessment was conducted to see if any water quality concerns have been identified (CDPHE; 2006a, 2006b, 2006c). Segment 2 is listed on the State's Monitoring and Evaluation list for sediment. The Monitoring and Evaluation list identifies water bodies where there is reason to suspect water quality problems, but additional data are needed to determine whether it should be

placed on the 303(d) list of impaired water bodies requiring a total maximum daily load (TMDL).

An LHA has been done on the Battlement Mesa area (BLM 2000). Approximately the northern third of the proposed route falls within this area (that portion within the Glenwood Springs Field Office area). Very limited water quality data is available, but some testing has indicated elevated levels of alkalinity and hardness as $CaCO_3$. Visual observations reveal white evaporate deposits (salt and/or alkali) along the banks of Alkali and Little Alkali Creeks and indicate large sediment loads are carried during runoff events. Existing water quality does not suggest that the established standards are being exceeded.

The WRNF has categorized the land under their administration as Class II. Class II is defined as at risk. The watershed is functional, but its condition is fair. Watershed condition may be in a downward trend or at risk of degradation. Physical, chemical, and biologic conditions indicate that soil, aquatic and riparian systems are at risk in supporting watershed functions.

Section 404 of the Clean Water Act requires a Department of the Army permit from the U.S. Army Corps of Engineers (COE) prior to discharging dredged or fill material into waters of the United States as defined by 33 CFR Part 328. A COE permit is required for both permanent and temporary discharges into waters of the United States. Proposed activities are likely to qualify for Nationwide Permit 12 that applies to the construction, maintenance and repair of utilities and associated facilities in waters of the United States.

Eighteen areas were identified as potentially jurisdictional areas (WWE 2007). All identified sites were large dry washes, rivers, perennial streams, ponds or wetlands. These sites are delineated in Table 3.1.9-1, Areas of Potential Corps of Engineers Jurisdiction. The Colorado River crossing occurs on private land on an existing pipeline bridge with no new disturbance to the stream channel or banks anticipated. Thus, this site has not been identified as a potentially jurisdictional area.

Table 3.1.9-1. Areas of Potential Corps of Engineers Jurisdiction

Site	Ownership	Site Name	Width	Depth
1	Private	East Fork Anderson Gulch	25’	2’
2	Private	Little Anderson Gulch	3-4’	1’
3	Private	East Fork Jerry Gulch	6’	1’
4	Private	Middle Fork Jerry Gulch	7’	1’
5	Private	Jerry Gulch	9’	.5’
6	BLM	East Fork Atwell Gulch	40’	0.25’
7	BLM	Atwell Gulch	5’	1’
8	BLM	Shire Gulch (FS Bypass)	20’	0.5’
9	BLM	Little Horsethief Creek	4’	0.5’
10	BLM	North Fork Little Horsethief Creek	4’	0.25’
11	Forest	South Fork Horsethief Creek	2’	0.5’

Table 3.1.9-1. Areas of Potential Corps of Engineers Jurisdiction

Site	Ownership	Site Name	Width	Depth
	Service			
12	BLM	Horsethief Creek	20’	1’
13	BLM	Smith Gulch	5’	0.5’
14	BLM	East Fork Smith Gulch	4’	0.25’
15	Private	Alkali Creek	2’	0.15’
16	Private	Little Alkali Creek	4’	0.25’
17	Private	Wallace Creek Fringe Wetland (10’ wide each bank)	4’	1’
18	Private	Gravel Pit Ditch Fringe Wetland (Excavated - 5’ wide each bank)	15’	1’

A Storm Water Management Plan has been prepared in compliance with CDPHE WQCD, the Federal Clean Water Act (CWA), and the National Pollutant Discharge Elimination Permit (NPDES) regulations found in 40 CFR, Part 122.26 for storm water discharges (COR-037959). The objectives of this Master SWMP are to identify all potential sources of pollution which may reasonably be expected to affect the quality of storm water discharges and describe the practices to be used to reduce the pollutants in storm water discharges associated with construction activity. The BMP’s are designed to control erosion, run off and sediment and can be either structural or nonstructural in nature.

EnCana would utilize a maximum of approximately 2.8 million gallons (8.6 acre-ft) of water for hydrostatic (strength) pipeline testing (EnCana 2007). Water would be obtained from EnCana’s Colorado River water rights. Other factors associated with depletion are described under 3.1.7, Special Status Species under Colorado River Fish.

Ground Water: The Project Area is located within the Piceance Basin. Within the Piceance Basin**,** alluvium of the Colorado River and tributaries comprise the majority of ground water development (Topper et al. 2003).

The surficial formation within most of the project area is the Tertiary Wasatch Formation. The principle aquifers of the Piceance Basin lie stratigraphically above the Wasatch. No "regional" bedrock aquifer is known to be present. Quaternary alluviums are prevalent along the Colorado River on the northern end of the proposed route.

The Colorado Division of Water Resources (CDWR) permit database (CDWR 2008) was reviewed for information related to wells permitted in the project area. Approximately 21 water wells were found within a half mile of the proposed route. All wells were on private land along the Colorado River on the northern end of the proposed route. Water wells are either completed in shallow water zones found in alluvium or other unconsolidated deposits, or in lenticular sands of the underlying Wasatch Formation.

3.2 Other Affected Resources

3.2.1 Access and Transportation

Primary access to the southern portion of the project area would be from I-70 to State Highway 65 and then up Plateau Creek (County Road 330) to its intersection with V Road. Much of the proposed route is under or adjacent to V Road (also known as Sunnyside Road), which is NFSR 274 on NFS lands. Primary access to the northern portion of the project area would be from I-70 at the De Beque exit. County Roads V, V.5, W, 339 and 330 access and are often adjacent to the proposed route. Other access to the line would be along the proposed ROW. Traffic in the area is heavy at present due to the oil and gas exploration and development activity. In the south central portion of the proposed route along V Road, the access is characterized by lower traffic volumes, low travel speeds, rugged terrain and adverse road surface conditions during storm events.

3.2.2 Geology and Minerals

The surficial geology in the project area includes sedimentary rocks of Tertiary Wasatch Formation and Ohio Creek Formation. These rocks are claystone, mudstone, sandstone and conglomerate (Tweto 1979). Additionally, the proposed pipeline is expected to encounter Quaternary alluvial deposits on private surface at the north end of the proposed route along the Colorado River. Some of the mesa tops in the northern portion (e.g., Samson Mesa) are capped by thin deposits of older Quaternary gravels.

The GMUG has completed geologic hazard mapping in the area (Fehlmann 1991). The Alternative A route along NFSR 274 (Sunnyside Road) crosses zones mapped as active landslides, active earthflows and potentially unstable slopes. Projection of the mapping would indicate that similar conditions occur where the Proposed Action crosses Shire Gulch. No large scale, active earth movement features were observed in the field. Soil creepage, planar block glides and possible small rotational slumps may be encountered.

3.2.3 Paleontology

Within the project area the Wasatch and Ohio Creek Formations are mapped together. The sediments are stream, floodplain and swamp deposits. Numerous scientifically significant fossils have been found in the Wasatch Formation elsewhere, particularly to the east of Grand Junction, and the formation has been classified as Class 4. Class 4B is defined as 'Areas underlain by geologic units with high potential, but have lowered risks of human caused adverse impacts and/or lowered risk of natural degradation due to moderating circumstances such as a protective layer of soil, thin alluvial material or other conditions that lessen or prevent potential impacts. Fossils are more common to the west and become scarcer to the east in Mesa County.

3.2.4 Noise

Interstate 70 and a variety of county and field development roads are the primary source of man-made noise within the project area. This is particularly true at the beginning and at the end of the proposed route. These local sources create an ambient noise level that is high relative to other parts of the project area. The mid portion of the proposed route is more remote and background noise levels are lower. There are no residences within the project area. Those people subject to noise generated in the project area are, for the most part, employees of the oil and gas companies

and travelers along major county roads. Ranchers, recreational visitors (i.e., hikers, hunters) and wildlife are also subject to noise generated in the area.

3.2.5 Range

The proposed pipeline route would be located on eight grazing allotments. Table 3.2.5-1 summarizes the permitted grazing use on each allotment. Rangeland improvements that could be impacted include improvements such as fences and water source improvements. Grazing is closed on NFS lands within the project area.

Table 3.2.5-1. Range Management Allotments

Allotment	Livestock Kind and Number	Season of Use	Percent Federal	Animal Unit Months
Sunnyside Common #06801-1 (GJFO)	Cattle 189	12/22 – 1/27	92%	212
Sunnyside Common #06801-2 (GJFO)	232	4/16 – 5/31	92%	323
	25	11/16 – 12/31		35
Sunnyside Common #06801-3 (GJFO)	Cattle 66	4/16 – 5/31	92%	92
Sunnyside Common #06801-4 (GJFO)	Cattle 165	10/18 – 12/25	92%	344
Sunnyside Common #06801-5 (GJFO)	Cattle 56	4/16 – 5/31	92%	78
Halfway House #16823 (GJFO)	Cattle 53	5/1 – 5/31	100%	54
Jerry Gulch #06847 (GJFO)	Cattle 100	5/1 – 6/30	75%	150
Alkali Creek Common #08130 (GSFO)	Cattle 93	05/01 -06/15	100%	141
	Cattle 60	05/01 -05/31		60

3.2.6 Land Use Authorizations

The proposed pipeline crosses private lands and federal lands administered by the BLM and USFS. Existing legal access is available to the project area. Much of the proposed route is adjacent or near existing roads, pipelines or utilities. The parcel of land in Section 19, T. 9 S., R. 96 W., 6th PM is designated as "Gd - Emphasis on Disposal" in the Grand Junction RMP (BLM 1985).

Table 3.2.6-1, Other Potentially Impacted ROWs, lists the other ROWs in close proximity to the Proposed Action that could be directly or indirectly impacted.

Table 3.2.6-1. Other Potentially Impacted ROWs

Case Number	Grant Holder	Type
COC 0030996	Public Service Co.	Power Transmission Line
COC 0122585	USFS	Trail
COC 0123147A	Rocky Mtn. Nat. Gas	O&G Facility Site

Table 3.2.6-1. Other Potentially Impacted ROWs

Case Number	Grant Holder	Type
COC 0125217	Public Service Co.	O&G Pipeline
COC 028022	NW Pipeline	O&G Pipeline
COC 028022H	EnCana	O&G Pipeline
COC 029423	Public Service Co.	Power Transmission Line
COC 036806	F.S. White River	Road
COC 067450	EnCana	Access Road
COC 068687	EnCana	Natural Gas Pipeline
COC 068688	EnCana	Salt Water Disposal Pipeline
COC 068689	EnCana	Fresh Water Pipeline
COC 069298	EnCana	O&G Pipeline
COC 069312, A, B	EnCana	Road, Water, Gas Pipeline
COC 069632	EnCana	Access Road
COC 072897	EnCana	Salt Water Disposal

3.2.7 Recreation

BLM administered lands in the project area are included in an Extensive Recreation Management Area (ERMA). ERMAs are generally managed in a custodial manner, with no infrastructure or developments. ERMAs are not considered to be destination recreation areas. Dispersed recreation occurs at varying levels in ERMAs.

General guidance for recreation management is provided in the form of Recreation Opportunity Spectrum (ROS) classes. These classes describe the setting and the recreation experience that can be expected in different areas. The portion of the project area administered by the GJFO is not classified. The portion of the project area administered by the GSFO is designated as Roaded Natural. Roaded Natural settings are characterized by a generally natural environment, but with evidence of rural residences and agricultural land uses. Resource manipulations are noticeable and are harmonious with the natural environment, although substantial modifications may be encountered. Such areas provide about equal opportunities to interact with other visitors and to experience isolation from the sites and sounds of man (BLM 1984). The off highway vehicle (OHV) designation on these public lands is open to existing roads. There is neither a high use nor a destination area for OHV use.

On NFS lands the ROS in the project area are summer and winter semi-primitive non-motorized (SPNM). The SPNM setting is predominantly natural or natural-appearing with limited motorized use of local roads. Resource modifications for SPNM are expected to be limited in scope and few in number; concentration of users is low and encounters with other users are expected to be low. Recreation emphasis is for dispersed recreation management.

Recreation use in the area can be characterized as dispersed recreation with a relatively low level of intensity. The exception to this general description is big-game hunting in the fall. Hunting is licensed by the CDOW from the end of August through the early part of November. In the project area, hunting activities would occur primarily in the latter part of this period.

The project area is located in CDOW game management unit (GMU) 42 and GMU 421. Both GMUs have historically been very popular with big-game hunters and can be expected to remain so in the future.

3.2.8 Socio-Economics

Much of the labor and equipment for construction and support would be drawn from the labor and equipment pools found in Mesa County and central Garfield County. The area has been the scene of on-going natural gas development for 15 years, and activity has intensified over the last five to seven years. A significant labor and equipment pool already exists in the Grand Junction and Rifle areas.

The July 2006 population of Garfield County is estimated at 53,020 and Mesa County population is estimated at 135,468 (Colorado State Demography Office 2008). The number of jobs in Garfield and Mesa counties in December 2007 is estimated at 37,438 and 79,963, respectively (Colorado Department of Labor and Employment 2008). The rate of population growth has been well above the average for the state, as has the rate of job growth. Principal economic sectors in Garfield County are office administrative services, sales and retail trade, and food preparation and serving. Principal economic sectors in Mesa County are sales and retail trade, office administrative services and construction and extraction. The total number of workers employed in oil and gas development is difficult to define since development-related occupations appear in a variety of economic sectors. However, oil and gas drilling and production have been one of the strongest forces driving recent economic growth. In addition to natural gas exploration and development, agricultural activity and livestock grazing are other economic activities that currently take place in the vicinity of the project area.

According to Census 2000, the only minority population of note in the impact area is the Hispanic community (Colorado State Demography Office 2008). Persons describing themselves as Hispanic or Latino represented 10.0 percent of the Mesa County population and 16.7 percent of the Garfield County population, less than the Colorado state figure for the same group, 17.1 percent. Blacks, American Indians, Asians and Pacific Islanders each accounted for less than one percent of the population, below the comparable State figure in all cases. The census counted 7.0 percent of the Mesa County population and 4.6 percent of the Garfield County population as living in families with incomes below the poverty line, compared to 6.2 percent for the entire state. Both minority and low income populations are dispersed throughout the area.

3.2.9 Soils (includes an analysis of Public Land Health Standard 1)

The proposed pipeline construction activities would occur within 21 soil units. The units are described in the Douglas - Plateau Area, Grand Mesa – West Elk Area and Rifle Area Soil Surveys presented by the Natural Resources Conservation Service (NRCS 2008). The parent material is Tertiary Wasatch Formation that consists of variegated siltstone, claystone, and sandstones and Quaternary alluvium (see Section 3.2.2, Geology and Minerals).

The soil types in the project area occur from 5,100 to 6,100 feet in elevation. The average annual precipitation in the project area is approximately 15 inches, the average annual temperature is 46 to 51 degrees F, and the average annual frost-free period ranges from 60 to 90 days (Western Region Climate Center 2008).

Generally, the soils are loams, clays and rock outcrop complexes. The depth of all soils range from 0 – 60 inches depending on slope and aspect. Some of the soils have a very high runoff potential and erosion hazard rating. Soil units, names, and characteristics for the Proposed Action and alternatives are listed in Table 3.2.9-1, Table 3.2.9-2 and Table 3.2.9-3. Descriptions of the affected soil units and complete soil surveys are available from the NRCS (NRCS 2008). Acres impacted by surface ownership are also portrayed under each alternative.

Table 3.2.9-1. Proposed Action: Summary of Area Soils

Soil Unit Name	Slope (%)	Salinity (mmhos/ cm)	Runoff	Erosion Hazard		Acres		
				Off Rd/Trail	On Rd/Trail	BLM	Forest	Private
Badland	steep	0	Very High	Severe	Severe	3		*
Barx loam	3 - 12	0 – 2.0	High	Slight	Moderate	15		16
Barx-Clapper Complex	3 – 12	0 – 4.0	High	Slight	Moderate	6		4
Biedsaw-Sunup Gravelly Loam	10 – 40	2.0 – 4.0	Very High	Moderate	Severe	*		7
Bunkwater Sandy Loam	1 – 8	0 – 8.0	High	Slight	Moderate	5		10
Clapper Very Stony Loam	12 – 25	0 – 4.0	Medium	Moderate	Moderate	9		2
Clapper Very Stony Loam	25 – 65	0 – 4.0	High	Severe	Severe	6		2
Dominquez Clay Loam	3 – 8	0 – 4.0	Very High	Slight	Moderate	18		28
Happle Very Channery Sandy Loam	3 – 12	0 – 2.0	Medium	Slight	Moderate	*		*
Arvada Loam	1 – 6	0 – 16.0	High	Slight	Moderate			5
Arvada Loam	6 – 20	0 – 16.0	Very High	Moderate	Severe			3
Nehill Channery Loam	1 – 6	0 – 4.0	Very Low	Slight	Slight	*		1
Potts Loam	3 – 6	0 – 2.0	High	Slight	Moderate	1		
Potts Loam	6 – 12	0 – 2.0	High	Slight	Severe			4
Potts-Ildefonso Complex	3 – 12	0 – 4.0	Low – High	Slight	Moderate	1		
Potts-Ildefonso Complex	12 – 25	0 – 4.0	Low – High	Moderate	Severe	2		9
Potts-Ildefonso Complex	25 - 45	0 – 4.0	Medium – Very High	Moderate	Severe	1		2
Torriorthents- Warm Rock Outcrop Complex	35 – 90	2.0 – 8.0	High – Very High	Very Severe	Severe	15		3
Travessilla – Rock Outcrop Complex	10 – 35	0 – 2.0	Very High	Moderate	Severe	19	4	3
Wann Sandy Loam	1 – 3	0 – 2.0	Not Rated	Slight	Slight			2
					Total	103	4	102

* - Less than one acre

Table 3.2.9-2. Alternative A: Summary of Area Soils

Soil Unit Name	Slope (%)	Salinity (mmhos/ cm)	Runoff	Erosion Hazard		Acres		
				Off Rd/Trail	On Rd/Trail	BLM	Forest	Private
Badland	steep	0	Very High	Severe	Severe	4		*
Barx loam	3 - 12	0 – 2.0	High	Slight	Moderate	16		11
Barx-Clapper Complex	3 – 12	0 – 4.0	High	Slight	Moderate	6		4
Biedsaw-Sunup Gravelly Loam	10 – 40	2.0 – 4.0	Very High	Moderate	Severe	*		7
Bunkwater Sandy Loam	1 – 8	0 – 8.0	High	Slight	Moderate	5		10
Clapper Very Stony Loam	12 – 25	0 – 4.0	Medium	Moderate	Moderate	8		2
Clapper Very Stony Loam	25 – 65	0 – 4.0	High	Severe	Severe	6		2
Dominquez Clay Loam	3 – 8	0 – 4.0	Very High	Slight	Moderate	18	1**	27
Happle Very Channery Sandy Loam	3 – 12	0 – 2.0	Medium	Slight	Moderate	*		*
Arvada Loam	1 – 6	0 – 16.0	High	Slight	Moderate			5
Arvada Loam	6 – 20	0 – 16.0	Very High	Moderate	Severe			3
Nehill Channery Loam	1 – 6	0 – 4.0	Very Low	Slight	Slight	*		1
Potts Loam	3 – 6	0 – 2.0	High	Slight	Moderate	1		
Potts Loam	6 – 12	0 – 2.0	High	Slight	Severe			4
Potts-Ildefonso Complex	3 – 12	0 – 4.0	Low – High	Slight	Moderate	1		
Potts-Ildefonso Complex	12 – 25	0 – 4.0	Low – High	Moderate	Severe	2		9
Potts-Ildefonso Complex	25 - 45	0 – 4.0	Medium – Very High	Moderate	Severe	1		2
Torriorthents- Warm Rock Outcrop Complex	35 – 90	2.0 – 8.0	High – Very High	Very Severe	Severe	9	6**	*
Torriorthents- Cool Rock Outcrop Complex	35 – 90	2.0 – 4.0	Very High	Very Severe	Severe		21**	
Travessilla – Rock Outcrop Complex	10 – 35	0 – 2.0	Very High	Moderate	Severe	19	*	3
Wann Sandy Loam	1 – 3	0 – 2.0	Not Rated	Slight	Slight			2
					Total	97	28**	93

* - Less than one acre

** - This value corresponds to the estimated maximum construction width as described in 2.4.1 Alternative Analyzed in Detail: Alternative A.

Table 3.2.9-3. Alternative B: Summary of Area Soils

Soil Unit Name	Slope (%)	Salinity (mmhos/ cm)	Runoff	Erosion Hazard		Acres		
				Off Rd/Trail	On Rd/Trail	BLM	Forest	Private
Badland	steep	0	Very High	Severe	Severe	4		*

Table 3.2.9-3. Alternative B: Summary of Area Soils

Soil Unit Name	Slope (%)	Salinity (mmhos/ cm)	Runoff	Erosion Hazard		Acres		
				Off Rd/Trail	On Rd/Trail	BLM	Forest	Private
Barx loam	3 - 12	0 – 2.0	High	Slight	Moderate	10		17
Barx-Clapper Complex	3 – 12	0 – 4.0	High	Slight	Moderate	4		
Biedsaw-Sunup Gravelly Loam	10 – 40	2.0 – 4.0	Very High	Moderate	Severe	*		8
Bunkwater Sandy Loam	1 – 8	0 – 8.0	High	Slight	Moderate	5		11
Clapper Very Stony Loam	12 – 25	0 – 4.0	Medium	Moderate	Moderate	5		5
Clapper Very Stony Loam	25 – 65	0 – 4.0	High	Severe	Severe	5		4
Dominquez Clay Loam	3 – 8	0 – 4.0	Very High	Slight	Moderate	16		28
Happle Very Channery Sandy Loam	3 – 12	0 – 2.0	Medium	Slight	Moderate	*	*	1
Arvada Loam	1 – 6	0 – 16.0	High	Slight	Moderate			5
Arvada Loam	6 – 20	0 – 16.0	Very High	Moderate	Severe	3		10
Nehill Channery Loam	1 – 6	0 – 4.0	Very Low	Slight	Slight	*		1
Potts Loam	3 – 6	0 – 2.0	High	Slight	Moderate	*		*
Potts Loam	6 – 12	0 – 2.0	High	Slight	Severe			4
Potts-Ildefonso Complex	3 – 12	0 – 4.0	Low – High	Slight	Moderate	1		
Potts-Ildefonso Complex	12 – 25	0 – 4.0	Low – High	Moderate	Severe	3		10
Potts-Ildefonso Complex	25 - 45	0 – 4.0	Medium – Very High	Moderate	Severe	*		2
Torriorthents- Warm Rock Outcrop Complex	35 – 90	2.0 – 8.0	High – Very High	Very Severe	Severe	17		3
Travessilla – Rock Outcrop Complex	10 – 35	0 – 2.0	Very High	Moderate	Severe	20	4	2
Wann Sandy Loam	1 – 3	0 – 2.0	Not Rated	Slight	Slight			2
					Total	94	4	114

* - Less than one acre

The Battlement Mesa LHA addresses the northern portion of the project area administered by the GSFO (BLM 2000). Within the LHA, soils were determined to be in acceptable condition on a landscape scale. A few site specific problems with soil conditions were noted, but these were attributed primarily to road runoff.

3.2.10 Vegetation (includes an analysis of Public Land Health Standard 3 for Vegetation)

General Vegetation: The major vegetation communities along the proposed pipeline route are a mixture of piñon-juniper woodlands and sagebrush dominated shrublands. Secondary habitat types are salt desert shrub community, greasewood, grass dominated, irrigated pasture and wetland/riparian. No agricultural or wetland/riparian lands are intersected on public lands; however, private lands along the Colorado River are bisected by the pipeline ROW.

The terrain in the Sunnyside area from Anderson Gulch to Shire Gulch is generally flat to low hills with three major drainages crossings (Anderson, Jerry and Atwell Gulches). The sagebrush flats here are dominated by sagebrush and grasses. The drainages and low hills are piñon-juniper woodland, generally of small to medium stature in the 10- to 15-foot height class.

Shire Gulch is a major canyon crossing south of Sunnyside Road with its headwaters on NFS lands including Horsethief Mountain. Habitat is a mix of piñon-juniper woodland within Shire Canyon and open sagebrush with stringers of piñon-juniper woodland on the benches.

The Horsethief Basin area is open sagebrush flats with a series of canyon crossing and adjacent rolling ridges covered by piñon-juniper woodlands. The proposed alignment parallels the existing county and BLM roads and also parallels a recently constructed pipeline to the southern edge of Samson Mesa.

The Samson Mesa to Orchard Compressor Station crosses sagebrush flats on Samson Mesa and south of the Colorado River, with piñon-juniper woodlands present on the slopes of Samson Mesa. The only significant riparian/wetland habitat along the route is present in this segment at the Wallace Creek and Colorado River crossings and occurs on private lands. Wallace Creek is a small intermittent stream (perennial in its upper reaches) that supports a dense riparian shrub community and several small cottonwood trees. The Colorado River crossing is located on an existing bridge that currently includes several gas pipelines. North of the river is a riparian/wetland along an overflow ditch from a former gravel pit. The last one half mile of the route is through a highly disturbed area of gravel operations and compressor station development.

Portions of the project area within the Glenwood Springs Resource Area are part of the Alkali Creek Common range allotment. According to the LHA for the Battlement Mesa Area (BLM 2000), 54 percent of the allotment was achieving the standard for healthy plant and animal communities and 46 percent was not achieving Standard 3 in 2000. Specific concerns relate to the condition of big game winter range and corresponding sagebrush and pinyon juniper habitats. Sagebrush sites not achieving the standard contain few perennial grasses with low plant diversity. Juniper invasion is also occurring. Sites that are achieving the standard generally contain a better species mix with higher plant diversity and better perennial grass and forb component.

Piñon-juniper woodlands and sagebrush shrublands are the dominant vegetation types occurring along the proposed pipeline alignment (Table 3.2.10-1) as well as the two alternative alignments (Table 3.2.10-2). Greasewood and salt desert shrub types form small percentages of the total vegetation. No wetlands or riparian vegetation is found on BLM or NFS lands. The crossing of the pipeline on private lands at the Colorado River and lower Wallace Creek involve wetland/riparian vegetation. The majority of the juniper woodlands are composed of mature trees, with most individual trees 15 to 20 feet tall.

Table 3.2.10-1. Proposed Action Alternative: Vegetation Communities, Landownership and Area (acres) Affected

Vegetation Type	Landownership	Acres
Greasewood	BLM	1
Piñon-Juniper	BLM	39
Sagebrush Community	BLM	55
Salt Desert Shrub Community	BLM	8
TOTAL		**103**
Piñon-Juniper	USFS	2
Sagebrush Community	USFS	2
Salt Desert Shrub Community	USFS	*
TOTAL		**4**
Grass Dominated	Private	*
Greasewood	Private	6
Irrigated Ag	Private	*
Piñon-Juniper	Private	18
Sagebrush Community	Private	69
Salt Desert Shrub Community	Private	6
Wetland/Riparian	Private	2
SUBTOTAL		**102**
GRAND TOTAL		**209**

Table 3.2.10-2. Alternatives A and B: Vegetation Communities, Landownership and Area (acres) Affected

Vegetation Type	Landownership	Acres
ALTERNATIVE A Segment that Deviates from the Proposed Action		
Piñon-Juniper	BLM	2
Sagebrush Community	BLM	2
Piñon-Juniper	USFS	14*
Sagebrush Community	USFS	10*
TOTAL		**28**
ALTERNATIVE B Segment that Deviates from the Proposed Action		
Piñon-Juniper	BLM	2
Sagebrush Community	BLM	*
Piñon-Juniper	PRI	6
Sagebrush Community	PRI	7
TOTAL		**15**

***** ** - This value corresponds to the estimated maximum construction width as described in 2.4.1 Alternative Analyzed in Detail: Alternative A.

Piñon-Juniper woodlands with mountain shrub understory: Pinyon-juniper woodlands are dominated by Utah juniper (*Juniperus utahensis*) and scattered piñon pine (*Pinus edulis*), with an understory of Wyoming sagebrush, forbs, and grasses. The shrublands within the project area are composed mainly of Wyoming big sagebrush and greasewood. Non-native downy brome (cheatgrass) is found throughout the area in varying amounts. Herbaceous species include Sandberg bluegrass (*Poa secunda*), Indian ricegrass, western wheatgrass, and galletagrass.

Sagebrush Community: Woody species identified for this community during the 2007 survey include Wyoming sagebrush, greasewood, broom snakeweed, shadscale, and gray rabbitbrush. Herbaceous and cactus species include Indian ricegrass, western wheatgrass, bluebunch wheatgrass, galletagrass, downy brome, crested wheatgrass, and prickly-pear cactus.

Sagebrush dominated shrublands are abundant in western Colorado. Sagebrush shrublands typically predominate in the bottoms of canyons and draws, on flatter portions of the benches and mesas, and in some cases follow stream and river courses. More mesic and well-managed sagebrush communities will also include a significant herbaceous (grasses and forbs) component in the understory.

Salt Desert Shrub (Saltbush) Community: Salt Desert Shrub shrublands are dominated by combinations of shadscale, Gardner saltbush and mat saltbush. Sagebrush is present in some Salt Desert Shrub sites. Associated grasses include alkali sacaton (*Sporabolus airoides*), sand dropseed (*Sporobolus cryptandrus*), Indian ricegrass (*Achnatherum hymenoides*), bottlebrush squirreltail (*Sitanion hystrix*), and sandberg bluegrass (*Poa secunda*). Common forbs include gooseberry leaf globemallow (*Sphaeralcea grossulariaefolia*), halogeton (*Halogeton glomeratus*), and Russian thistle (*Salsola kali*).

Greasewood Community: Greasewood shrublands are often strongly dominated by greasewood plants with a very sparse understory. Associated species include those listed for the Salt Desert Community and Sagebrush Community.

Grasslands: Understory grass species are found in the native habitats. The majority of species are bunch grasses including western wheatgrass, Indian rice grass, galletagrass, bluebunch wheatgrass and introduced crested wheatgrass (*Agropyron cristatum*).

Wetland/Riparian Community: Woody species identified within this community during the 2007 survey included Fremont cottonwood (*Populus fremonti*) and willows (*Salix* spp.). Herbaceous species include cattail (*Typha latifolia*), mountain rush (*Juncus balticus* var. *montanus*), common spikerush (*Eleocharis palustris*), saltgrass (*Distichlis spicata*), horsetail (*Equisetum* spp.), foxtail barley (*Hordeum jubatum*), bulrush (*Schoenoplectus* spp.), scratchgrass (*Muhlenbergia asperifolia*), western wheatgrass, and sedges (*Carex* spp.).

3.2.11 Visual Resources

Approximately 5 miles of the northern portion of the proposed route is located along the I-70 corridor. This portion begins where the proposed route descends off of Samson Mesa and becomes visible from I-70. Approximately 1.4 miles is on BLM managed lands and 3.6 miles is on private land. The I-70 corridor is classified as Visual Resource Management (VRM) Class II lands. The objective of this class is to retain the existing character of the landscape. The level of

change to the characteristic landscape should be low and not attract attention. Management activities may be seen, but should not attract the attention of the casual observer.

The remainder of the project area on BLM administered lands is located within VRM Class III or is an unspecified visual class area. The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of casual observer.

NFS lands in the project area are identified as having a high scenic integrity level. At this level, the valued landscape character appears intact. Deviations may be present but must repeat the form, line, color, texture, and pattern common to the landscape character so that they are not evident.

In general, the area along I-70 between De Beque and Rifle has been and continues to be heavily developed for oil and gas resources. The project area has a relatively high level of existing contrast consisting of roads, gas development facilities, power lines and fences. This existing contrast is higher in the northern portion of the project area than in the southern portion.

3.2.12 Wildlife, Aquatic (includes an analysis of Public Land Health Standard 3 for Wildlife)

Aquatic resources and wildlife potentially occurring in the project area are presented here to provide background for the biological analysis that follows in subsequent subsections of this analysis.

Forty-one named and unnamed drainages are intersected by the proposed pipeline alignment and the two alternative segments but only one, the Colorado River, is a perennial waterbody. The others are intermittent or ephemeral and carry water only during spring snowmelt runoff or during significant precipitation events; all are tributary to the Colorado River system. A complete description of the drainages is included in Chapter 3.1.9, Water Quality.

The Colorado River, Plateau Creek, Jerry Creek Reservoirs (2), and the upper portion of Wallace Creek support viable aquatic environments that include fish populations. The Colorado River supports limited salmonid populations likely due to elevated, unsuitable water temperatures experienced during the summer. Generally, the Colorado River supports warm water fish species, including threaten, endangered and sensitive species, while Plateau Creek and Wallace Creek support cold water species. The pipeline alignment does not directly intersect Plateau Creek with it closest point approximately 1.1 miles from the south end of the alignment. The pipeline alignment intersects Wallace Creek near its confluence with the Colorado River and does not affect the perennial segment of the drainage. According to the LHA for the Battlement Mesa Area (BLM 2000), waters are functioning in their capacity to support and sustain aquatic life. Jerry Creek Reservoirs are about 2.75 miles south of the pipeline alignment. Jerry Creek Reservoirs are warm water fisheries owned and managed by the Ute Water Conservancy District in cooperation with the CDOW.

3.2.13 Wildlife, Terrestrial (includes an analysis of Public Land Health Standard 3 for Wildlife)

Many terrestrial species are likely to occur and include mountain lion, black bear, coyote, mule deer, elk, cotton-tail rabbit, jackrabbit, piñon mouse, deer mouse, woodrats, and gray fox. Mountain lion and black bear would be occasional visitors to habitats along the proposed pipeline alignment and alternatives. Mountain lions would more typically be found more often during winter months when higher densities of prey, including mule deer are in the project area. Black bear have been noted using the piñon-juniper woodlands feeding on juniper berries during periods of extreme drought when forage at higher elevations in the Battlements is not readily available (Graham, personal communication).

The extensive sagebrush and piñon-juniper woodlands found along the entire pipeline alignment are essential winter habitat for mule deer. The project area includes CDOW big game GMU 42 and 421. The pipeline alignment intersects winter range and does not affect summer ranges for this species according to CDOW NDIS mapping references (2008). The south portion of the alignment that runs across the Sunnyside area is high quality winter range for deer and elk and is designated by the CDOW as overall winter range, severe winter range and a winter concentration area. Mule deer typically begin to move onto the winter ranges in late October and through November. By mid-December deer that habitually winter in the project area have completed their migration into the habitat. Elk winter densities are not as high as mule deer, since this species typically winter at higher elevations east of the project area.

Mule deer and elk select winter habitat based on forage availability and cover. Winter ungulate densities are highest where these two features are most readily available. The pipeline alignment affects winter range throughout its alignment. The winter range in this area extends from the base of the Battlements to south including Plateau Creek and to the west and north to the Colorado River. Mule deer that winter in the project area tend to do so habitually with essentially the same animals returning to the same geographic area. Elk tend to be less tied to specific winter ranges and move in response to winter severity and forage conditions.

Spring migration usually begins in April and by May most migratory deer have left for summer ranges, which are mainly located in the Battlements and north and east of Collbran.

Wild Turkey is primarily found in lower-elevation conifers and oak brush (Kingery 1998). This species typically nest in oak brush, ponderosa pine, cottonwood/riparian habitats during April and May. This species could potentially occur on BLM lands in the project area on the north slopes of Sampson Mesa, Sampson Mesa, Alkali Creek and Little Alkali Creek.

In the project area, Wild Turkey habitat (overall range) is only found along the Colorado River in the vicinity where the alignment crosses the river (CDOW NDIS 2008). In this area, the pipeline alignment would cross approximately 1.4 miles of overall range and about 1.0 miles of winter range. It would not affect identified production areas along Wallace Creek, which are east and south of the proposed pipeline alignment. The upland piñon-juniper woodlands along the proposed pipeline are not mapped as overall range by the CDOW (NDIS 2008).

The mature piñon-juniper woodlands, rock outcrops and snags located within the Project Area provide nesting and foraging habitat for raptor species such as great horned and long-eared owls,

northern harrier, accipiters and buteo hawks, American kestrel, and prairie falcon (Kingery 1998).

Generally, raptors return to areas in which they have nested in the past, often using the same nesting territories. Nesting activities may be initiated in mid-February to mid-May depending upon species. Nest occupation continues until chicks are fledged, which usually occurs from early June to mid-August. Raptor nesting is expected to occur in suitable habitats within and near the Project Area. The following list (Table 3.2.13-1) represents raptor species potentially occurring in the project area.

Table 3.2.13-1. Raptor Species (other than Sensitive and BOCC) that may Potentially Occur

Common Name	Scientific Name	Habitat & Breeding Records
Cooper's hawk	*Accipiter cooperii*	• Cottonwood riparian to spruce/fir forests, including piñon/juniper woodlands. Nests most frequently in pines and aspen.
Sharp-shinned hawk	*Accipiter striatus*	• High density young, or even-aged, stands of coniferous forest and deciduous forests of aspen or oak brush with small stands of conifers.
Red-tailed hawk	*Buteo jamaicensis*	• Diverse habitats including grasslands, piñon-juniper woodlands and deciduous, coniferous and riparian forests. Nests in mature trees (especially cottonwood, aspen, and pines) and on cliffs and utility poles.
American kestrel	*Falco sparverius*	• Coniferous and deciduous forests and open terrain with suitable perches. Nests in cavities in trees, cliffs and buildings.
Great horned owl	*Bubo virginianus*	• Occupies diverse habitats including riparian, deciduous and coniferous forests with adjacent open terrain for hunting.
Northern saw-whet owl	*Aegolius acadicus*	• Mountain and foothills forest and canyon country. Significant use of piñon-juniper woodland and Douglas-fir.
Long-eared owl	*Asio otus*	• Occupies mixed shrublands. Nests and roost in sites in dense cottonwoods, willows, scrub oak, junipers and dense forest of mixed conifers and aspens.

No active raptor nest sites were observed within the survey area boundary (WWE 2007). Four inactive nests were found and all were stick nests located in trees. Red-tailed hawk and Cooper's hawk are the most likely species nesting in the project area. Three species of raptors were observed (flying or perching) in the project area including Red-tailed hawk, golden eagle and American kestrel.

In general, few good raptor nest cliffs were noted along the pipeline corridor (WWE 2007). Atwell Gulch and Shire Gulch contained considerable rocky rims, but few exceeded 20 to 30 feet in height. The west end of the Battlements has significant relief, but generally, cliffs are poorly formed and well removed from the pipeline corridor. Piñon-juniper woodlands adjacent to the pipeline corridor are generally marginal raptor nesting habitat due to the small stature of the trees and often open nature of the stands. With the exception of several canyon crossings, trees are generally in the 10 to 15 foot height class. The riparian zone along the Colorado River at the Una crossing supports mature cottonwood stands, particularly upstream of the crossing. Surveys in the area detected no nests.

The LHA for the Battlement Mesa Area (BLM 2000) did not specifically address any terrestrial wildlife concerns. However, there were concerns for habitat vegetation within the Alkali Gulch Grazing allotment (see Section 3.1.10 Vegetation).

3.2.14 Forest Service Wildlife Management Indicator Species

The approximate 0.34-mile segment of the WRNF northwest of Horsethief Mountain is contained in all the potential alternative alignments analyzed in the EA. Alternative A, approximately 1.8 miles long, includes the GMUG lands (and BLM lands) and is included here to avoid duplication of tables and references about Management Indicator Species (MIS), since some species are listed by both forests.

MIS are those species that have been selected by the various Forests to represent the habitat needs of a larger group of species requiring similar habitats. Descriptions of the habitat relationships, distribution, population trends and other information are described in the MIS Assessment for the GMUG (June 2001) as well as the updated GMUG 2005 MIS Assessment. The MIS listed in the 2005 MIS GMUG Forest Plan Amendment are listed in the table below. The list was taken from GMUG website (www.fs.fed.us/r2/gmug). Similar information for WRNF MIS species was taken from Forest Plan Amendment 03/06 (WRNF 2006). If there is no habitat for a MIS species or accounts of occurrence, that species was not addressed in further detail for this EA. No aquatic habitats are directly encountered along the pipeline alignment on USFS lands and all drainages are ephemeral.

Table 3.2.14-1. MIS Species, Habitat Description and Potential of Occurrence

Species Common Name (National Forest)	Species Scientific Name	Habitat Description	Habitat or Species Potentially Occurring within Landscape Area
MAMMALS			
American marten (GMUG)	*Martes americana*	Inhabits mature spruce/fir and mixed conifer forests.	Habitat – No Species - No
American elk (GMUG & WR)	*Cervus elaphus*	Inhabits a wide range of elevations over a wide range of habitat types from 4,500 ft to 12,000 ft.	Habitat- Yes Species- Yes
Abert's squirrel (GMUG)	*Sciurus abertii*	Mature ponderosa pine forests.	Habitat- No Species- No
Cave bats (WR)		Inhabit broad range on Western Slope; utilize caves and mines as a critical portion of habitat.	Habitat- No Species- No
BIRDS			
Virginia's warbler (WR)	*Vermivora viginiae*	Gambel oak and mountain shrub	Habitat - No Species - No
Brewer's sparrow (GMUG & WR)	*Spizella breweri*	Inhabits sagebrush dominated shrublands; may also be found in alpine willow stands.	Habitat - Yes Species - Yes
Northern goshawk (GMUG)	*Accipiter gentilis*	Mixed hardwoods and conifers in stands of mature timber above 7,500 feet. Piñon-juniper woodlands in the Piceance Basin.	Habitat - No Species - No

Table 3.2.14-1. MIS Species, Habitat Description and Potential of Occurrence

Species Common Name (National Forest)	Species Scientific Name	Habitat Description	Habitat or Species Potentially Occurring within Landscape Area
Wild (Merriam's) turkey (GMUG)	*Meleagris gallopavo*	Habitat includes dry forest of broken mountainous terrain. Most often in forested habitats, primarily lower-elevation conifers and Gambel oak. Seldom breeding in piñon-juniper woodlands.	Habitat – Yes Species - No
Red-naped sapsucker (GMUG)	*Sphyrapicus nuchalis*	Habitat includes mainly aspen, willows and cottonwoods. Breeding occurs almost exclusively in mature aspen stands.	Habitat - No Species - No
American pipit (WR)	*Anthus rubescens*	Alpine tundra and montane meadows	Habitat - No Species - No
FISH			
Colorado River cutthroat trout (GMUG & WR)	*Oncorhynchus clarki pleuriticus*	Headwater streams and lakes.	Habitat - No Species - No
Rainbow trout (GMUG & WR)	*Oncorhynchus mykiss*	Aquatic/riparian	Habitat - No Species - No
Brown trout (GMUG & WR)	*Salmo trutta*	Aquatic/riparian	Habitat - No Species - No
Brook trout (GMUG & WR)	*Salvelinus fontinalis*	Aquatic/riparian	Habitat - No Species - No

American Elk: Elk populations have increased in the Battlement Mesa area in the last 30 years due to natural population growth and ongoing CDOW, USFS, and BLM management and hunting programs. The project lies in CDOW Game Management Units 42 and 421; the segment of the pipeline through the WRNF is restricted to GMU 42 and GMU 421 is in the GMUG. As elk populations have increased, distribution has expanded such that elk occupy habitats throughout Battlement Mesa and the project area. Elk survival mechanisms have allowed this species to adapt to a wide range of environmental conditions including the utilization of a variety of habitats and forage types including the lower elevation piñon-juniper woodlands along the west end of the Battlements. Elk numbers in the project area throughout the year are not static and fluctuate due to season-based migration including the occurrence on summer and winter ranges.

Elk breed during September and early October. Calving habitats are typically in aspen, deciduous mountain shrub, and spruce/fir communities located at higher elevation where vegetation is of higher quality and availability during the summer months. Calving occurs mainly in June.

The pipeline alignment through national forest lands is located within CDOW-defined (NDIS 2008) overall range and winter range. It does not lie within mapped summer range. It also passes through WRNF that has a Management Area Prescription (5.41) for mule deer and elk

winter range (WRNF 2002). Upper Horsethief Mountain is listed as summer range, but the boundary of this area is located approximately 1.3 miles southeast of the pipeline alignment on the WRNF and about 0.6 mile northeast of the GMUG alignment. There are no calving areas along the proposed pipeline alignment and alternatives. The closest CDOW-mapped calving areas are located in the Wallace Creek area about 5 miles east of the pipeline alignment. No specific elk migration routes have been identified by the CDOW within the project area.

Elk winter in the sagebrush steppe landscapes in the project area and some migrate to lower elevation winter range or severe winter in the Bluestone area along lower Horsethief Gulch closer to I-70. Migration to these areas would require crossing the pipeline alignment during winter months. Elk movements to the winter ranges usually do not occur until December; however, migration and winter use areas are dependent on the severity of winter conditions, which directly affect forage availability. The majority of elk potentially migrating through the project area likely come from the higher elevation summer ranges of Battlement Mesa located east of the pipeline alignment.

Wild (Merriam's) Turkey: This species is primarily found in lower-elevation conifers and oak brush (Kingery 1998). Wild Turkey typically nest in oak brush, ponderosa pine, cottonwood/ riparian habitats during April and May. This species could potentially occur on USFS lands in the project area, but use would likely be limited to non-resident, transitory birds moving between the Colorado River and Plateau Creek drainages that are known to support this species.

In the project area, Wild Turkey habitat (overall range) is only found along the Colorado River in the vicinity where the alignment crosses the river (CDOW NDIS 2008). In this area, the pipeline alignment would cross approximately 1.4 miles of overall range and about 1.0 miles of winter range. It would not affect identified production areas along Wallace Creek, which lie east and south of pipeline alignment. The upland piñon-juniper woodlands along the proposed pipeline are not mapped as overall range by the CDOW (NDIS 2008).

Rainbow, Brown and Brook Trout and Colorado River Cutthroat Trout: These species may occur in the Colorado River in low numbers where the pipeline is suspended at the Una Bridge. Colorado River cutthroat and brook trout have been found in the unaffected segments of upper Wallace Creek including WRNF lands during CDOW inventory projects (Elmblad personal communication). All three species occur in Plateau Creek from Collbran downstream to the Colorado River confluence. These species are not found on USFS lands in the project area.

Brewer's Sparrow: This species is also identified as BLM sensitive and BOCC species and is addressed in Section 3.1.7.b BLM and USFS Designated Sensitive Species.

3.2.15 Forest Service Research Natural Area

The Proposed Action crosses lands within the WRNF. The WRNF lands have been designated as the Lower Battlement Mesa Research Natural Area (USFS 2002). However, there is a 300 foot buffer along the Sunnyside Road.

3.2.16 Forest Service Inventoried Roadless Areas

The WRNF has identified the Housetop Mountain Roadless Area in the vicinity of the Proposed Action. The boundary is distant from the proposed route and occurs upslope to the southeast.

The GMUG has identified the Sunnyside Roadless Area in the vicinity of Alternative A. The boundary is buffered along the Sunnyside Road in the project area. USFS direction for inventoried roadless areas calls for management activities that emphasize long-term maintenance of roadless characteristics.

CHAPTER FOUR
ENVIRONMENTAL CONSEQUENCES AND MITIGATION

4.0 Introduction

This chapter describes the environmental consequences of the approval of the Proposed Action and each of the alternatives considered in detail as described in Section 2.5.1. This chapter discusses both the adverse impacts and benefits associated with the Proposed Action and the alternatives. Resources addressed in the impact analysis follow those identified in Chapter 3.0, Affected Environment.

4.1 Critical Elements

4.1.1 Air Quality

Environmental Consequences of the Proposed Action:

The air quality criteria pollutant likely to be most affected by the pipeline installation is the level of inhalable particulate matter, specifically particles ten microns or less in diameter (PM_{10}) associated with fugitive dust. In addition, slight increases in the following criteria pollutants: carbon monoxide, ozone (secondary pollutant), nitrogen dioxide, and sulfur dioxide may also occur during construction due to the combustion of fossil fuels associated with construction operations. However, levels would be well below applicable ambient air quality standards

Emissions of particulate matter would be reduced through control of dust during construction activities. Following successful re-vegetation, airborne particulate matter should return to, or near, pre-construction levels. No significant impacts to air quality, long term or short term, are expected as a result of implementing to Proposed Action.

Mitigation:

To mitigate dust generated by these activities, the holder shall implement dust abatement measures as needed or directed by the Authorized Officer.

Environmental Consequences/Mitigation of the No Action Alternative:

Under the No Action Alternative, the Proposed Action would not be constructed and associated fugitive dust emissions would not occur.

Environmental Consequences/Mitigation of Alternative A:

Impacts and mitigation would be the same as the Proposed Action.

Environmental Consequences/Mitigation of Alternative B:

Impacts and mitigation would be the same as the Proposed Action.

4.1.2 Cultural Resources

Environmental Consequences of the Proposed Action:

In general, the project area exhibits a high degree of disturbance from previous construction activities related to oil and gas development and grazing activities. Further increases in access to

the general public, in addition to the presence of construction personnel, would increase the vulnerability of cultural resources to illegal collection, excavation, and vandalism.

Ten eligible cultural sites would be directly affected by the Proposed Action. There would be significant adverse impact to important cultural resources. These would require mitigation through avoidance and compliance with a cultural mitigation plan. Five sites could be avoided. One site was determined to already have allowable existing and similar uses. Four sites would require compliance with an approved data recovery and treatment plan. All other sites identified as not eligible would not be affected.

Mitigation:

Completion of a mitigation/avoidance and a treatment plan including data recovery is required for ten sites. This may include further consultations with the affected Indian Tribes. On-site monitoring should be conducted during construction at all sites identified for monitoring or data recovery. A temporary snow fence barrier must be erected at all eligible sites and a third party archaeologist present to assist with the placement of the fence, to monitor construction activities, and to assist with removal of the fence. In addition, due to the high number of cultural resources recorded by the inventory, third party archaeological monitoring should occur during all construction activities.

A standard Education/Discovery condition of approval (COA), NAGPRA stipulation and the Colorado State Statute CRS 24-80-1301 for Historic, Prehistoric, and Archaeological Resources, and for Unmarked Human Graves for the protection of cultural resource values would be attached to the ROW grant. The importance of this COA should be stressed to the operator and its contractors, including informing them of their responsibilities to protect and report any cultural resources encountered.

Environmental Consequences/Mitigation of the No Action Alternative:

Under this alternative, no ground disturbances would take place and access would not be increased. Therefore, no direct impacts would occur. However, cultural resources in the general area would remain vulnerable to damage from illegal activities.

Environmental Consequences/Mitigation of Alternative A:

Under Alternative A, there are eleven eligible cultural sites that would be directly affected by the construction activities. Completion of a mitigation/avoidance and a treatment plan including data recovery is required for eleven sites. Six sites could be avoided. One site was determined to already have allowable existing and similar uses. Four sites would require compliance with an approved data recovery and treatment plan. Impacts would be marginally higher than the Proposed Action due to the increased number of sites. Other mitigation and impacts would be the same as the Proposed Action.

Environmental Consequences/Mitigation of Alternative B:

Under Alternative B, there are 10 eligible cultural sites that would be directly affected by the construction activities. Completion of a mitigation/avoidance and a treatment plan including data recovery is required for ten sites. Five sites could be avoided. One site was determined to already have allowable existing and similar uses. Four sites would require compliance with an

approved data recovery and treatment plan. Other mitigation and impacts would be the same as the Proposed Action.

4.1.3 Environmental Justice

Environmental Consequences/Mitigation of the Proposed Action:

The socioeconomic impacts of public land management are not large relative to the basic social and economic resources in the project area. Additionally, the minority and low-income populations are small relative to state-wide averages and such populations are dispersed throughout the project area. Therefore, no minority or low-income populations would suffer disproportionately high and adverse effects as a result of any of the alternatives.
No mitigation is necessary.

Environmental Consequences/Mitigation of the No Action Alternative:

Under the No Action Alternative, the Proposed Action would not be constructed and environmental justice concerns would not be present.

Environmental Consequences/Mitigation of Alternative A:

Impacts would be the same as the Proposed Action.

Environmental Consequences/Mitigation of Alternative B:

Impacts would be the same as the Proposed Action.

4.1.4 Invasive Non-native Species

Environmental Consequences of the Proposed Action:

With the exception of downy brome, noxious weeds are not widespread in the project area. However, the moist soils and existing infestation of noxious weeds along the north side of the Colorado River presents a high potential for the rapid spread of weeds in this area. Disturbance resulting from project construction in the project area provides opportunity for invasion of noxious weeds at the expense of more desirable species. The potential for impacts resulting from the invasion of non-native weeds and lack of the recovery of native species can result in both on-site and off-site environmental affects.

Planting a native seed mix in all disturbed areas and the application of an aggressive weed management plan would aid in the restoration of the plant communities in this area. An aggressive weed plan serves to prevent: 1) the invasion and expanded range of noxious weeds and 2) ensure the establishment of desirable plant life upon rehabilitation of the proposed pipeline disturbance.

As mandated by the Colorado Noxious Weed Act and the Colorado Oil and Gas Conservation Act, and in conformance with BLM and USFS National Invasive Weed Strategies, operators shall control noxious weeds on lands they disturb during oil and gas exploration and development, including well pads, facilities, pipelines, roads and any other disturbed areas on BLM and USFS lands and private property (BLM 2007).

Mitigation:

Effective post-disturbance reclamation is necessary since noxious and invasive weeds flourish in areas of ground disturbance, particularly in areas where soil moisture is higher throughout the year. A weed control program including equipment washes prior to construction would significantly reduce weed introductions and facilitate post-construction weed control. Intensive post-construction weed monitoring and control for the life of the pipeline would be necessary to prevent re-infestation or new infestation of disturbed areas.

For portions of the project area located on private lands, the mitigation measures such as monitoring and treatment would fall within the jurisdiction of Mesa and Garfield Counties. Coordination and planning with the county weed supervisor would help mitigate problems that could arise from the disturbance caused by the action. On both private and federal lands, the implementation of an Integrated Weed Management Plan such as the *Noxious and Invasive Weed Management Plan for Oil and Gas Operations* (BLM 2007) to address weed issues would be an effective approach. Weed treatments would take into account rare plant locations to ensure that herbicide is not applied to any of the Special Status Plant Species.

Environmental Consequences/Mitigation of the No Action Alternative:

Under the No Action Alternative, no new construction would take place; therefore, no new infestations of invasive non-native species should occur. However, existing infestations are likely to spread if not treated.

Environmental Consequences/Mitigation of Alternative A:

Impacts and mitigation would be the same as the Proposed Action.

Environmental Consequences/Mitigation of Alternative B:

Impacts and mitigation would be the same as the Proposed Action.

4.1.5 Migratory Birds

Environmental Consequences/Mitigation of the Proposed Action:

Migratory birds within the project area are also identified as BOCC, BLM sensitive species and/or USFS sensitive species. Consequently they are described in Sections 4.1.7, Special Status Species (yellow billed cuckoo, loggerhead shrike, sage sparrow, Brewer's sparrow, grey vireo, black throated grey warbler, golden eagle, bald eagle).

Waterfowl frequent the habitat along the Colorado River on private lands. The proposed pipeline route crosses the Colorado River via a suspension on the old Una Bridge. The construction period would be short, but birds using the area would be displaced due to noise and activity. In general, displacement should have a minimal impact because there is extensive suitable habitat in the area and the Una Bridge is already an area of high activity.

Environmental Consequences/Mitigation of the No Action Alternative:

Under the No Action Alternative, the Proposed Action would not be constructed and there would be little or no change in existing vegetation.

Environmental Consequences/Mitigation of Alternative A:

Alternative A would centralize the disturbance corridor to the existing road, though additional vegetation disturbance would occur along the road. Impacts are expected to be smaller as habitat fragmentation would be minimized. Mitigation would be the same as the Proposed Action.

Environmental Consequences/Mitigation of Alternative B:

Alternative B would deviate from existing and proposed roads where it descends off of Samson Mesa. Due to the heavily developed nature of the immediate vicinity, additional habitat fragmentation would not be an issue. Other impacts and mitigation would be the same as the Proposed Action.

4.1.6 Native American Religious Concerns

Environmental Consequences/Mitigation of the Proposed Action:

Construction of the pipeline would adversely impact known significant properties of Native American concern. Tribal representatives have been consulted and they have provided mitigation prescriptions and information. The proximity of Native American sites to planned development would result in indirect impacts that adversely impact the significance of resources by changing the setting, location, association and feeling. In addition, further increases in access to the general public and the presence of construction personnel would increase the vulnerability of these values to illegal collection, excavation, and vandalism. Other than avoidance, no viable mitigation has been identified to avoid the impact.

Environmental Consequences/Mitigation of the No Action Alternative:

Under the No Action Alternative, the Proposed Action would not be constructed and associated impacts would not occur.

Environmental Consequences/Mitigation of Alternative A:

Impacts would be the same as the Proposed Action. However, in addition to the presence of construction personnel, could increase the vulnerability of these values to illegal collection, excavation, and vandalism.

Environmental Consequences of Alternative B:

Construction of the pipeline would not impact any known properties of Native American concern. However, further increases in access to the general public, in addition to the presence of construction personnel, would increase the vulnerability of these values to illegal collection, excavation, and vandalism.

Mitigation:

Dissemination of information and education of all workers associated with the project has been identified to avoid potential impact for Alternative A and B. Conditions of Approval for the project would include NAGPRA , a standard Education/Discovery COA and the Colorado State Statute CRS 24-80-1301 for Historic, Prehistoric, and Archaeological Resources, and for Unmarked Human Graves for the protection of Native American values and would be attached to the ROW grant. This mitigation is also identified in Section 4.2.2, Cultural Resources.

4.1.7 Special Status Species (includes an analysis of Public Land Health Standard 4)

4.1.7.a Threatened, Endangered and Candidate Species

T&E PLANT SPECIES

Environmental Consequences of the Proposed Action:

Colorado Hookless Cactus (SCGL3): Local populations of the Colorado hookless cactus may be affected by actions associated with construction of the Collbran pipeline in the project area. In the Sunnyside area adjacent to the road, the proposed pipeline ROW passes through and is adjacent to three groups of SCGL3 supporting approximately 86 individuals. Two of the plant groups are on BLM lands and one is on private lands. Twenty-one of these plants fall within the ROW and 14 plants are within 65 feet (20 meters) of the existing road disturbance. They would potentially be affected during construction without adequate protection. Detailed information regarding this species is presented in the Biological Assessment (BA) that was prepared for the Project (BLM 2008). Potential effects to SCGL3 and habitat include direct loss of individual plants, dust, erosion and sedimentation resulting in loss of occupied and potential habitat, and noxious and invasive weed invasion. The remaining plants occur adjacent to the pipeline ROW and would be at risk of potential incidental disturbance outside the ROW.

In addition to known habitat for SCGL3, additional potential habitat occurs along portions of the pipeline alignment. Therefore, future SCGL3 colonization in suitable habitat currently unoccupied or not known to currently support this species would be affected by pipeline construction.

The USFWS SCGL3 Recovery Plan (1990) indicates documented and estimated plant numbers of 4,000 and 10,000, respectively, in the Upper Colorado population. The 31 plants known to occur within the pipeline ROW represent approximately 0.8 percent of the documented population and 0.3 percent of the estimated plant numbers.

Soil disturbance associated with the pipeline construction increases the likelihood of colonization by invasive, non-native plants that may also constitute a threat to the long-term persistence of the local cacti population.

Erosion and sedimentation from soil disturbance can affect habitat outside the ROW resulting in direct and indirect effects on plants and potential habitat. Dust during construction may potentially affect plant physiology/reproduction particularly during the flowering season. However, there is no documentation regarding adverse affects and flowering occurs April-May and dust would be a potential problem only during the year of construction. After construction, dust levels would return to approximately current or slightly higher levels.

No losses of SCGL3 are anticipated; however habitat and plants may be indirectly impacted by construction activities. The USFWS Biological Opinion (USFWS 2008) determined that placement of the pipeline within the currently disturbed road would likely have the least impact on cactus subpopulation, other potential sensitive species and currently unfragmented habitat. The USFWS determination is that the project is not likely to jeopardize the continued existence of SCGL3 because no losses of the cactus are anticipated, adverse affects are expected to be

indirect and temporary, and design features and mitigation measures would avoid or minimize the effects of the action.

De Beque Phacelia (PHSCS3**):** Along the Proposed Alternatives, one occupied PHSCS3 site would potentially be affected by project development. This site is located approximately 40 yards east of the pipeline centerline. All the other known sites (CNHP, USFS 2007-2008, and 2007 biological surveys) on public and private lands are all located at distance greater than 140 yards from the pipeline ROW.

Based on 2007 (WWE) surveys, potential *Phacelia* habitat (visual soil attributes) was observed in seven sites within and adjacent to the ROW. Three of these sites would potentially be affected by pipeline construction. Surveys of these three potential sites in June 2008 did not detect the presence of this species. Detailed information regarding this species and affected environment are presented in the Biological Assessment that was prepared for the Collbran Pipeline Project (WWE 2008).

Soil disturbance associated with the pipeline construction increases the likelihood of colonization by invasive, non-native plants that may also constitute a threat to the long-term persistence of the local cacti population.

Erosion and sedimentation from soil disturbance can affect habitat outside the ROW resulting in direct and indirect effects on plants and potential habitat. Dust during construction may potentially affect plant physiology/reproduction particularly during the flowering season. However, there is no documentation regarding adverse effects and flowering occurs April-May and dust would be a potential problem only during the year of construction.

Mitigation:

BLM has focused on avoidance of SCGL3 for proposed projects as the first choice for mitigation (USFWS 1990). Various options exist, which would mitigate/eliminate impacts to the cactus occurring in and along the pipeline corridor and include the following.

1. Move the alignment south of Sunnyside Road in localized areas where the three populations occur. This has been proposed (WWE 2007) for the population located in the SE1/4 of Section 28, T. 9 S., R. 96 W., 6th PM (private land group). Movement of the ROW to south at the other two locations would also result in avoidance of all known plants. Recent surveys at the site on private lands detected the presence of additional plants (3) south of the ROW approximately 250 yards. At the two sites on BLM lands, the areas south of the known populations have been surveyed with no plants being found. SCGL3 seed dispersal is not well documented; however, it is thought that gravity and water flow are two of the three main methods. Moving the pipeline to the south, particularly at the private land site would have the potential of adversely affecting potential habitat that has the highest likelihood of being colonized by additional cactus.
2. The second option is to restrict the pipeline corridor and disturbance to the existing roadbed of Sunnyside Road (or NFSR 274 on NFS lands), which would likely require end hauling of trench material and temporary closure of the county road and/or national forest system road.

3. Moving the alignment north of the road in the areas of occurrence on private lands would involve an approach that may affect potential habitat to a lesser extent. Due to seed dispersal mechanisms discussed above, it is less likely that plants would spread naturally to the north.

The variability of De Beque phacelia to germinate from year to year in suitable occupied habitat suggests that careful attention should be paid to occupied and potentially occupied habitat. For both Colorado hookless cactus and De Beque phacelia, Option 2 is the most viable under the circumstances and is in concordance with the USFWS Biological Opinion.

In addition to listed alternatives, use of conventional BMPs during construction would mitigate negative affects. Following is a summary of the design features and other mitigation practices that would be employed during construction.

- Erecting temporary plastic webbed fencing through areas supporting cacti to restrict vehicles and machinery in the pipeline corridor and Sunnyside Road to avoid of individual or groups of plants.
- Sites potentially affected by construction would be well marked on the ground and polygons identified using GPS devices in case flagging/stakes are inadvertently removed and to facilitate monitoring.
- If necessary, in areas where the disturbance concern is highest, individual plants would be covered with protective enclosures (square boxes: wood or metal) that are well ventilated to prevent overheating, but provide added protection from excavated sidecast exposure. These measures would be applied for time periods recommended by compliance personnel.
- Compliance personnel would be present at the initiation of construction and closely monitor activities until the completion of construction in sensitive areas identified by BLM.
- Ongoing weed control and reclamation efforts to reestablish native plant species in the disturbed ROW. Herbicide application to thistle would be avoided in sites known to be occupied by the rare Rocky Mountain Thistle.
- Dust abatement measures during construction in identified essential sites would not allow magnesium chloride to be applied.
- Careful conservation of the upper top soil zone during trenching and replacement after construction.
- Implementation of the approved reclamation and re-vegetation plan.
- In occupied habitat, pipeline construction would be confined to existing disturbance along Sunnyside Road. This may require the use of ‘stove piping’ construction techniques and end hauling of excavated soil/rocks to minimize disturbance and avoid sidecast in critical plant habitat.
- In addition to the three SCGL3 sites, ‘stove piping’ would be utilized in the area potentially affecting one PHSCS3 site (Sec 13 NE), and the pipeline would moved to the west for approximately 230 feet from mile marker 9.38 to 9.42 to limit any additional disturbance of the occupied *Phacelia* habitat immediately adjacent to the road. No new

surface disturbance beyond the existing road surface should occur on the east side of the road.

- Occupied habitat for De Beque phacelia should be identified during the relatively short period of time this species is growing and visible. Depending on climatic conditions affecting germination and growth, this could range from mid-April to mid-June.
- A monitoring plan should be developed in conjunction with USFWS and approved by the Authorized Officer for the evaluation of specie health and condition.
- Protective fencing would be constructed along both sides of Sunnyside Road through the occupied plant habitat after completion of construction. The fence would help reduce off-road vehicular traffic. Fencing would be one-strand, steel cable threaded through steel pipe and be approximately 40 inches high.
- Implementation of a Stormwater Management Plan.

Environmental Consequences/Mitigation of the No Action Alternative:

Under the No Action Alternative, the Proposed Action would not be constructed and associated impacts to T&E plants would not occur.

Environmental Consequences/Mitigation of Alternative A:

Colorado Hookless Cactus: No cacti were observed along the portion of the Alternative A alignment that deviates from the Proposed Action. Soils in this area are composed mainly of Torriorthents cool-rock outcrops, which is similar but not the typical soils types supporting SCGL3 in the project area. It is unlikely that SCGL3 would be affected by project actions.

De Beque Phacelia: One De Beque phacelia site has been identified along this alternative alignment on USFS lands immediately adjacent to NFSR 274 (USFS and CNHP). The USFS has monitored the known site (2007), which is within the proposed pipeline ROW and the lower portion of the occupied habitat would be affected by pipeline construction. This is the only known historic population of phacelia on the GMUG (CNHP 2008). The known site could be avoided if the road and pipeline were shifted to the south. As disclosed in the GMUG Biologic Evaluation (BE) a finding of "likely to result in loss of viability in the planning area, or in a trend toward federal listing of De Beque phacelia (*Phacelia submutica* – USDA Forest Service 2007) was determined (USFS 2008). Substantial mitigation which includes realignment of the road would need to occur in order to avoid direct and indirect impacts to known and potential phacelia populations along Alternative A (USFS 2008). Cumulative impacts under this alternative would are expected to drive this sensitive species towards listing (USFS 2008). Other impacts and mitigation would be the same as the Proposed Action.

Environmental Consequences/Mitigation of Alternative B:

No cacti were observed along the portion of the Alternative B alignment that deviates from the Proposed Action. Soils in this area are composed mainly of Barx-Clapper complex soils, which are similar to soils supporting SCGL3 in the Sunnyside area. Topography and vegetation is similar to habitats that support SCGL3 with sagebrush. Approximately 0.75 miles of potential habitat would be affected along this alternate alignment. The remaining portion of this alignment bisects dense piñon-juniper woodlands, which would not be typical SCGL3 habitat. Based on field surveys and CNHP records, it is unlikely that SCGL3 would be affected by

project actions. No De Beque phacelia or high potential habitat was noted along this section. Other impacts and mitigation would be the same as the Proposed Action.

T&E COLORADO RIVER FISH

Environmental Consequences of the Proposed Action:

Colorado River endangered fishes are addressed here and in greater detail in the Biological Assessment (BLM 2008) and Biological Opinion (USFWS 2008) prepared as part of this project.

EnCana would utilize a maximum of approximately 2.8 million gallons (8.6 acre-ft) of water for hydrostatic pipeline testing (EnCana 2007). Water would be obtained from EnCana's Colorado River water rights. Since the mid-1970s, USFWS has held that any depletion of water, large or small, anywhere in the Upper Colorado River basin, even far upstream of the occupied habitat, would adversely affect the endangered fish species and their designated critical habitat (Pitts 2006). Therefore, if any federal agency takes an action (issues a permit, ROW/easement, provides funding) that allows a depletion to occur, or facilitates a depletion, the federal agency is required to consult with USFWS. The volume of water is relatively small.

Hydrostatic water would be withdrawn from the Colorado River and testing would move in segments from the north end to the south end of the pipeline. Endangered fish species would potentially be entrapped in intake hoses, while water is pumped from the river into the pipeline for hydrostatic testing. At the conclusion of hydrostatic (strength) testing, excess water in the pipeline would be discharged into dry washes that are tributary to Plateau Creek. Potential washes include Jerry's Gulch, Shire Gulch, Atwell Gulch, and Little Anderson Gulch and small feeder tributaries to these drainages. The amount of water potentially returning to the Colorado River is unknown. Factors affecting the return would include the rate of discharge and volumes. It is likely that the return flows may be negligible due to distances involved, soil absorption rates and evaporation rates. Also see Section 4.1.9 Water Quality for additional water related impacts and mitigation.

Natural sediments and human-caused pollutants from petroleum products would potentially affect Colorado River waters. Stormwater runoff intercepting the pipeline alignment's soil disturbance areas would potentially affect the quality of Colorado River water and habitat conditions for endangered fish. Petroleum products are used during construction activities and adhere easily to soil particles and other surfaces and would potentially affect water quality in the Colorado River.

The USFWS has provided a Biological Opinion for the project (USFWS 2008). Due to the construction design of the steel bridge structure over the Colorado River, the pipeline would not directly affect the waters and bed of the Colorado River and with successful reclamation would have minimal affects to the 100-year flood plain including riparian habitat or wetlands. In addition to the current consultation, water use and depletions from the Colorado River system were previously addressed (USFWS 1994). If the project is approved, depletion volumes would need to be reported under the annual reporting provisions of the Biological Opinion. The USFWS determination is that no additional adverse effects to the Colorado River Fishes are likely to occur, and that design features and mitigation measures would avoid or minimize the affects of the action.

Mitigation:

Measures that would mitigate adverse impacts to T&E fish include:

- Hydrostatic test water discharge would comply with all requirements of the CDHPE.
- Discharges would not be released into Jerry Gulch or its smaller tributaries to avoid potential inflows into the Jerry Creek Reservoirs.
- Screens on intake hoses would be used to prevent the entrapment of fish or other aquatic species.
- EnCana would monitor the appropriation rate (uptake of water in hoses) of water for filling the pipeline for hydrostatic testing to ensure that an adequate river flow is maintained to support aquatic life.
- Implementation of the approved reclamation and re-vegetation plan would decrease the likelihood of increased sedimentation into the Colorado River that would potentially affect water quality conditions.
- EnCana's Stormwater Management Plan and Spill Prevention Containment and Countermeasure plan would address soil erosion and fuels and materials management using best management practices typically employed by industry.
- Installation of a shutoff valve set prior to the Una Bridge crossing that in the event of a pipeline breach would prevent/minimize flows of natural gas and liquids into the Colorado River.
- Implementation of an approved noxious weed management plan increases the re-vegetation potential for native plant communities.
- The Contractor would not store hazardous materials, chemicals, fuels, lubricating oils, or perform concrete coating activities within 200 feet of any water body or dry drainage. Equipment or vehicles that are crossing or working within 200 feet of water bodies would not be refueled unless the Environmental Inspector gives a specific exception. If any hazardous material must be temporarily stored or transferred within 200 feet of a water body (i.e. stationary pumps), then it must be placed within a secondary containment structure that is capable of containing 110 percent of the volume of the stored material.

Environmental Consequences/Mitigation of the No Action Alternative:

Under the No Action Alternative, the Proposed Action would not be constructed and associated impacts would not occur.

Environmental Consequences/Mitigation of Alternative A:

The portion of the alignment that deviates from the Proposed Action crosses at a higher point in the Shire Gulch drainage. Several small intermittent drainages crossings would occur rather than four crossing in the Proposed Action. The drainages crossed in Alternative A are the tributaries of the drainages that would be crossed under the Proposed Action. Due to steeper terrain and unstable soils, the potential for erosion and sedimentation is high in this area. However a road currently crosses these slopes and potential for erosion is an existing condition. Surface disturbance and redisturbance during and immediately after construction would result in slightly increased erosion and sedimentation in the short term. In three to five years erosion and

sedimentation would return to existing conditions. Other impacts and mitigation would be the same as the Proposed Action.

Environmental Consequences/Mitigation of Alternative B:

The portion of this route that deviates from the Proposed Action would result in three additional crossings of small intermittent drainages. Vegetation and terrain are similar to those in the Proposed Action. Impacts and mitigation would be the same as the Proposed Action.

T&E and Candidate BIRD SPECIES

Environmental Consequences/Mitigation of the Proposed Action:

Mexican Spotted Owl (MSO): The pipeline alignment in Shire Gulch is the closest approximation of MSO habitat occurring in the project area. Within the piñon-juniper zone, shady, steep-walled canyons are considered potentially suitable habitat. Shire Gulch poorly fits this description as it has outcrops but few walls and is neither cool nor particularly shaded. The Proposed Action would have no effect on the Mexican Spotted Owl and its habitat, as records of occurrence are lacking for the area and the canyon is a poor match with suitable habitat. No mitigation is required.

Yellow-billed Cuckoo: Riparian habitat on the north side of the Colorado River is the only suitable yellow-billed cuckoo habitat (cottonwoods trees with a willow, salt cedar and Russian olive understory) to be indirectly (noise, dust, and human presence) disturbed during construction. The area currently is highly disturbed with an existing pipeline corridor, gravel pond and adjacent county road. None of the suitable habitat would be directly affected by pipeline construction which reduces the chances of adverse effects. Due to low likelihood of occurrence, The Proposed Action is expected to have no effect on the Yellow-billed Cuckoo or its habitat. No mitigation is required.

Environmental Consequences/Mitigation of the No Action Alternative:

Under the No Action Alternative, the Proposed Action would not be constructed and associated impacts to T& E birds would not occur.

Environmental Consequences/Mitigation of Alternative A:

Impacts and mitigation would be the same as the Proposed Action.

Environmental Consequences/Mitigation of Alternative B:

Impacts and mitigation would be the same as the Proposed Action.

T&E MAMMAL SPECIES

Environmental Consequences/Mitigation of the Proposed Action:

Lynx: The project is not within a Lynx Analysis Unit (LAU) or a lynx linkage area. The habitat is considered "non-lynx habitat". The project area does not contain the specific biological and physical features (boreal forest, presence of snowshoe hare and deep fluffy winter snow), otherwise known as the primary constituent elements, essential to the conservation of the lynx. The project area does not include interconnected blocks of conifer forest habitat (linkage areas)

which might serve as travel corridors and is unlikely to develop such vegetation given the relatively low elevation. No impact to this species is likely to occur. No mitigation is required.

Environmental Consequences/Mitigation of the No Action Alternative:

Under the No Action Alternative, the Proposed Action would not be constructed and associated impacts would not occur.

Environmental Consequences/Mitigation of Alternative A:

Impacts and mitigation would be the same as the Proposed Action.

Environmental Consequences/Mitigation of Alternative B:

Impacts and mitigation would be the same as the Proposed Action.

4.1.7.b BLM and USFS Designated Sensitive Species

SENSITIVE PLANT SPECIES

Environmental Consequences of the Proposed Action:

Naturita milkvetch: Two groups of Naturita milkvetch were considered close enough to the pipeline alignment to potentially be affected by construction. One group consisted of two plants and the other supported three plants. The groups are opposite each other and separated by V Road; one group is on the north side and the other is on the south side of the road. The sites where Naturita milkvetch was found during the 2007 biological survey represents new occurrence locations for the species.

Rocky Mountain (Adobe) Thistle: Eleven groups of Rocky Mountain thistle are close enough to the proposed pipeline ROW to be affected by construction. This sensitive species is the most common of those detected along the proposed pipeline ROW and was found scattered across the Sunnyside area and in the upper portions of Horsethief Creek. Four hundred forty-eight plants were counted within the area that could potentially be affected by construction. This represents approximately 11 percent of the plants counted along the entire pipeline alignment during 2007 surveys. Adobe thistle does not always germinate every year in occupied habitat and therefore lack of presence does not necessarily indicate unoccupied habitat.

Mitigation:

For sensitive plants, mitigation and Conditions of Approval identified in Section 4.1.7.A T&E Plant Species should be adopted.

Environmental Consequences/Mitigation of the No Action Alternative:

Under the No Action Alternative, the Proposed Action would not be constructed and associated impacts would not occur.

Environmental Consequences/Mitigation of Alternative A:

Naturita milkvetch: Six groups of Naturita milkvetch were observed on NFS lands along this alternative. Four of the groups are located close enough to the ROW to be a concern during construction. Realignment of the pipeline to the south side of NFSR 274 would reduce potential

affects to this species. For sensitive plants, mitigation and COA identified in Section 4.1.7.A T&E Plant Species should be adopted.

Rocky Mountain Thistle: Two groups of Rocky Mountain thistle were detected along this alternative alignment and were within the pipeline ROW. One of the thistle sites is located near the De Beque phacelia site and the recommended mitigation for the phacelia would avoid the thistle site. The other known thistle site would be avoided by the shift of the road to the south side of NFSR 274 as recommended for the Naturita milkvetch (above). The shifting of the road and pipeline would provide for a greater buffer than current alignment, and ensure that no habitat would be directly affected by pipeline construction. For sensitive plants, mitigation and COA identified in Section 4.1.7.A T&E Plant Species should be adopted.

Environmental Consequences/Mitigation of Alternative B:

No sensitive plant species occur along this alternative. Impacts and mitigation would be the same as the Proposed Action.

SENSITIVE AQUATIC WILDLIFE SPECIES

Environmental Consequences of the Proposed Action:

Habitat for flannelmouth sucker, bluehead sucker, roundtail chub and mountain sucker would not be directly affected by project development since the pipeline is suspended across the Colorado River and no other perennial waterways are crossed by the pipeline. Potential indirect affects are the same as those addressed in Section 4.1.7.A, T&E Colorado Fish Species including hydrocarbon spills, stormwater runoff and effects associated with hydrostatic testing.

Mitigation:

Mitigation developed for water quality, erosion and reclamation would effectively mitigate potential impacts to aquatic wildlife and should be included as COAs.

Environmental Consequences/Mitigation of the No Action Alternative:

Under the No Action Alternative, the Proposed Action would not be constructed and associated impacts would not occur.

Environmental Consequences/Mitigation of Alternative A:

The portion of the alignment that deviates from the Proposed Action crosses at a higher point in the Shire Gulch drainage. Several small intermittent drainages crossings would occur rather than four crossing in the Proposed Action. The drainages crossed in Alternative A are the tributaries of the drainages that would be crossed under the Proposed Action. Due to steeper terrain and unstable soils, the potential erosion is high in this area. However a road currently crosses these slopes and potential for erosion is an existing condition. Surface disturbance and redisturbance during and immediately after construction would result in increased erosion and sedimentation in the short term. In three to five years erosion and sedimentation would return to existing conditions. Other impacts and mitigation would be the same as the Proposed Action.

Environmental Consequences/Mitigation of Alternative B:

The portion of this route that deviates from the Proposed Action would result in three additional crossings of small intermittent drainages. Vegetation and terrain are similar to those in the Proposed Alternative. Impacts and mitigation would be the same as the Proposed Action.

SENSITIVE TERRESTRIAL WILDLIFE SPECIES

Mammals

Environmental Consequences of the Proposed Action:

Fringed Myotis, Yuma Myotis, and Spotted Bat: Bat species would likely be unaffected by project development. The removal of 47 acres of piñon-juniper woodlands would potentially affect roost sites, but since this habitat is abundant in the project area, no affects on populations would result. There may be potential roost sites in the low-broken sandstone bluffs where the alignment crosses Shire Gulch, but similar habitat is abundant in the project area. No specific mitigation is required.

Rocky Mountain Bighorn Sheep: This species is not expected to be affected by project development. Bighorn sheep occasionally forage in this area on the NFS and BLM lands and recent telemetry data shows low occurrences of sheep in the area of Shire Gulch and Place mesa/ Indian Peak, but the habitat is not believed to be part of their essential range.

Mitigation:

Reclamation would provide a basis for re-vegetation of areas where natural plant communities would be affected. Effective reclamation with grasses and forbs would benefit the forage base in the near term. In areas where the pipeline does not parallel public roads and where the BLM has authority to close access, vehicular travel to new areas made accessible by project actions should be prevented.

Environmental Consequences/Mitigation of the No Action Alternative:

Under the No Action Alternative, the Proposed Action would not be constructed and associated impacts would not occur.

Environmental Consequences/Mitigation of Alternative A:

For Bighorn Sheep, the portion of this alignment that deviates from the Proposed Action bisects the lower portion of overall sheep range, but CDOW studies do not show consistent high levels of use in the project area. Re-vegetation may result in improvement in forage quality and quantity, but over all little impact on bighorn sheep is expected. It is unlikely that construction would affect sheep distribution or forage resources in the project area. Impacts and mitigation would be the same as the Proposed Action.

Environmental Consequences/Mitigation of Alternative B:

Impacts and mitigation would be the same as the Proposed Action.

Birds:

Environmental Consequences of the Proposed Action:

Raptors: The potential affects to nesting raptors is low due to the low quality of the habitat; however, any formerly used nest could potentially become active during 2008 breeding season. New nests could be constructed during the 2008 breeding season. All birds including raptors are susceptible to disturbance and potential nest abandonment due to natural and unnatural (man-caused) intrusions into their nesting territory.

Gunnison or Greater Sage-Grouse: Approximately 70 acres of BLM sagebrush shrublands would be affected by project development. An additional 86 acres of sagebrush would be affected on fee lands. In occupied sage-grouse habitat, the loss of sagebrush can affect this species. The low number of sage-grouse potentially occurring in the project area results in a low potential for affects to this species. The loss of sagebrush habitat for grouse most likely would affect re-establishment opportunities rather than occupied habitat. The reestablishment of sagebrush shrublands in suitable potential habitat would benefit a variety of wildlife species and may encourage future use of the area by sage-grouse. Sage-grouse droppings were found during wildlife surveys conducted for the project, genetic analysis to determine if these are Gunnison or Greater sage grouse has not yet been completed by CDOW. Grouse have not been detected in this area for over 15 years, and it is expected that the area was used as winter range in a year when winter conditions were particularly severe (2007-2008). EnCana has committed to fund a $30,000 sage grouse study as part of the Orchard II Master Development Plan. Information and data gathered as part of the study would benefit management of the specie and its habitat in the project area.

Brewer's Sparrow and Sage Sparrow: These species are sagebrush obligates and approximately 70 acres of this habitat would be affected. Disturbance effects would be highest during the period of construction and decrease thereafter to levels commensurate with traffic along V and T Roads in those areas where the proposed pipeline parallels these roads. Densities and use of sagebrush habitat by these species has been and currently is affected by vehicular traffic on roads. Both species are sensitive to human disturbance and likely have adjusted habitat use to areas where security is provided at acceptable levels for successful breeding and nesting. Studies (Ingelfinger and Anderson 2004) have demonstrated that densities of Brewer's and sage sparrow were reduced by 39%–60% within a 100-m buffer around dirt roads with low traffic volumes (7–10 vehicles per day).

Black-throated Gray Warbler, Pinyon Jay, Gray Vireo, and Loggerhead Shrike: Pinyon jays and black-throated gray warblers are piñon-juniper obligate species and affects to this vegetation community would potentially impact these species. Loggerhead shrikes and gray vireos are more closely associated with habitat supporting both piñon-juniper and shrublands and edge habitat related to these types. Direct removal of trees and shrublands during construction and associated indirect disturbance would affect species during this time frame. Affects would persist into the future until mature piñon-juniper trees have re-occupied the previous woodland areas.

Approximately 50 acres of piñon-juniper woodlands on BLM lands would be affected by pipeline construction; 26 acres are not located along V and T Roads. Densities and use of piñon-juniper woodlands habitat by black-throated gray warblers, pinyon jays, shrikes and gray vireo has been and currently are affected (to an unknown extent) due to vehicular traffic on V Road. Both species are sensitive to human disturbance and likely have adjusted habitat use to areas where security is provided at acceptable levels for successful breeding and nesting. As a result,

pipeline construction along V and T Roads would have less affect than in undisturbed woodlands. In areas not associated with public roads, these species would be affected only by loss of vegetation and disturbance during construction.

Information from the scientific literature indicates that one pair of black-throated gray warbler has a territory of about 11 acres (Salamacha 1995). The pipeline would disturb approximately 50 acres of suitable habitat resulting in the potential loss of 4-5 nesting pairs in the project area.

Both pinyon jays and black-throated gray warblers are common species in habitat associations found in the Project area. Habitat for this species is abundant throughout the De Beque area and overall populations are unlikely to be compromised.

Loggerhead shrike and gray vireo are not common species in this area, but habitat is abundant and overall populations would likely be unaffected. Loggerhead shrike breeding is not known to occur in the project area. Gray vireo breed in small, but increasing numbers according to WRNF biologists. The project would result in minor decreases in available habitat for shrikes and gray vireo, but the loss would be relatively small compared to the amount of habitat available in the Horsethief Mountain area. Construction would affect individuals, but would not likely result in a decrease in population number in the Project Area.

Mitigation:

Raptor mitigation would involve a 0.25-mile buffer around an active nest site from February 1 to August 15. The stipulation may be suspended if a nest site is unoccupied by May 15. Status of known nests sites/new nest sites would be determined during the period of construction if actions are initiated within spatial and temporal stipulations.

Habitat affects can be mitigated by adequately reclaiming vegetation disturbed by project construction along the proposed pipeline alignment. Reclamation would encourage native grass species and reestablishment of sagebrush shrublands. The reestablishment of sagebrush shrublands in suitable potential habitat would benefit a variety of wildlife species and may encourage future use of the area by sage-grouse.

If construction and ground clearing activities were to occur during nesting season of bird species, direct impacts or loss of nests and individuals could occur and indirect impacts causing unsuccessful nesting may occur. These impacts can be minimized by limiting surface and vegetation disturbance outside the nesting season (May-July), when young of most species have fledged and have left their nests. No long-term impacts are anticipated to these species that tend to be generalists, widely dispersed, and secure in the general area due to the large amount of similar habitat available.

Environmental Consequences/Mitigation of the No Action Alternative:

Under the No Action Alternative, the Proposed Action would not be constructed and associated impacts would not occur.

Environmental Consequences/Mitigation of Alternative A:

One inactive raptor nest site was found within 0.25 miles of the east end of this alignment where it deviates from the Proposed Action. The potential affects to this nest site is low due to the low

quality of the habitat; however, any formerly used nest could potentially become active during 2008 breeding season. New nests could potentially be constructed during subsequent breeding season. Alternative A would centralize the disturbance corridor to the existing road, though additional vegetation disturbance would occur along the road. Impacts are expected to be smaller as fragmentation would be minimized, mitigation would be the same as the Proposed Action.

Environmental Consequences/Mitigation of Alternative B:

No active nests were found along this alignment where it deviates from the Proposed Action. Potential nesting habitat occurs within this piñon-juniper woodlands along this alignment. New nests could potentially be constructed during subsequent breeding seasons. Other impacts and mitigation would be the same as the Proposed Action.

Amphibians and Reptiles

Environmental Consequences of the Proposed Action:

Great Basin Spadefoot Toad and Midget Faded Rattlesnake: One small stock pond in the vicinity of Atwell Gulch holds water through the summer in some years and would be affected during construction. Although no aquatic species were noted at this location, it does have potential as breeding habitat for amphibian species as well as a water source for terrestrial species. Individual Great Basin Spadefoot Toads and Midget Faded Rattlesnakes may be affected by the Proposed Action, however these effects are not expected to significantly influence population numbers in the area.

Mitigation:

Reclamation would provide a basis for re-vegetation of areas that provide habitat for these species. Restoration of contours along the pipeline alignment to original conditions would ensure the flow of water into existing ephemeral water collection sites that may support spadefoot toads. Care should be taken to avoid indiscriminate killing of rattlesnakes by providing educational instructions to contractors. Rattlesnakes are protected by CDOW regulations, but are sometimes killed due to fear of being bitten when encountered on roads or within project construction areas.

Environmental Consequences/Mitigation of the No Action Alternative:

Under the No Action Alternative, the Proposed Action would not be constructed and associated impacts would not occur.

Environmental Consequences/Mitigation of Alternative A:

Impacts and mitigation would be the same as the Proposed Action.

Environmental Consequences/Mitigation of Alternative B:

Impacts and mitigation would be the same as the Proposed Action.

Finding on the Public Land Health Standard 4 for Special Status Species:

A LHA has not been completed for the portion of the project area administered by the GJFO. However, anecdotal observations suggest that this standard is being met. A LHA has been completed for the Battlement Mesa area (BLM 2000) that is administered by the Glenwood

Springs Field Office. Habitat condition within this area appear suitable for special status species known or likely to occur. However, large portions of the landscape are being fragmented due to extensive natural gas development. Continued habitat fragmentation is of concern, because large blocks of contiguous, intact habitat are required by many species. Sustained development and the proliferation of roads, well pads, pipelines, compressor stations, tank farms and other surface facilities will continue to reduce habitat patch size and affect both habitat quality and quantity. The potential to impact some species would increase as development continues. The Proposed Action or Alternatives in conjunction with similar activities throughout this watershed would increase fragmentation and could increase sediment loads. Although the contribution of the Proposed Action or Alternatives would be minimal, it may further trend the area away from meeting Standard 4. The No Action Alternative would have no bearing on the Public Land Health Standard.

4.1.8 Wastes, Hazard and Solid

Environmental Consequences of the Proposed Action:

Possible pollutants that could be released during the construction phase of this project would include: diesel fuel, hydraulic fluid, lubricants and welding gases. These materials would be used for refueling and maintaining construction equipment and vehicles, pipeline construction and reclamation. Surface water or ground water could be impacted. While uncommon, a transportation accident could occur, which could result in a release of any of these materials. A release could result in contamination of surface water or soil. In the case of any release, emergency or otherwise, the responsible party would be liable for cleanup and any damages. In the event of a spill or release of hazardous or regulated materials, the holder would report the spill to the surface management agency (BLM or USFS) and other state or federal agencies as required by regulation, depending on the type and quantity of material spilled. Depending on the scope of the accident, various contingency plans would be activated to provide emergency response. At a minimum, the BLM/GJFO contingency plan would apply.

Mitigation:

The holder should promptly remove and dispose of all waste caused by its activities. Laws, regulations, standard stipulations and contingency plans/emergency response resources should adequately mitigate any hazardous or solid waste issues associated with this project. The holder should submit its Spill Prevention Containment and Countermeasure (SPCC) plan to the Authorized Officer prior to scheduled start up. The SPCC plan should:

a. Include provisions for oil or other pollutant spill control.

b. The agencies responsible for contingency plans and BLM shall be among the first to be notified in the event of any pipeline system failure resulting in a spill of oil or other pollutant. Include a list of notification contact information.

c. Provide for restoration of the affected resource with guidance from the BLM.

d. Provide that the Authorized Officer shall approve any materials or devices used for oil spill control and any disposal sites or techniques selected to handle oil, matter, or other pollutants.

e. Include separate and specific techniques and schedules for cleanup of spills of oil or other pollutants on land or waters.

Environmental Consequences/Mitigation of the No Action Alternative:

Under the No Action Alternative, the Proposed Action would not be constructed and associated impacts would not occur.

Environmental Consequences/Mitigation of Alternative A:

Impacts and mitigation would be the same as the Proposed Action.

Environmental Consequences/Mitigation of Alternative B:

Impacts and mitigation would be the same as the Proposed Action.

4.1.9 Water Quality, Surface and Ground (includes an analysis of Public Land Health Standard 5)

Environmental Consequences of the Proposed Action:

Surface water: The primary potential water quality impact would be from additional sediment generated by construction of the proposed pipeline and modification of Shire Gulch. Pipeline construction along the Proposed Action requires removal of the vegetation cover needed to protect watersheds. Precipitation and runoff could increase short-term erosion and sedimentation delivery to affected streams. Long-term sediment impacts could result from inadequate soil depth over the pipeline, incomplete or unsuccessful re-contouring and seeding, and permanent changes to stream morphology from construction. Fueling and vehicle/equipment maintenance in or adjacent to streams could also introduce hydrocarbons to the affected drainages.

The magnitude of these impacts is dependent on the amount of surface disturbance and the climatic conditions during the time the soils are exposed to the elements. It is likely the potential for impacts would be greatest during construction and prior to re-establishment of vegetation. With proper installation, monitoring, and maintenance of storm water BMPs and physical barriers where needed, impacts on water quality should be limited.

The Grand Junction Resource Area ROD and Approved RMP (January, 1987) includes a list of standard Design Practices for all proposals and for pipeline projects. These are consistent and similar to the design practices and conditions of approval being used by the other Federal offices. The applicant is required to be familiar with standard design practices and COA, and to implement them as site conditions warrant. The holder would be responsible for complying with all local, State and Federal water quality regulations, as well as providing documentation to the BLM and/or USFS, upon request.

Construction activities that exceed one acre of disturbance are required to obtain a Storm Water Discharge Permit from the Colorado Department of Public Health and Environment, Water Quality Control Division. As a condition of the permit, a Storm Water Management Plan (SWMP) would be developed showing how BMPs are used to control runoff and sediment transport.

The hydrostatic testing plan calls for the use of Colorado River water to test the integrity of the pipeline in sections starting on the north and working south. Discharge is not specifically described in the POD, but would most likely occur in the southern end of the project. Overland discharge would have the potential to cause increased erosion and impact plants. Discharge into

drainages would be preferable and could provide possible residual benefits to depletion issues. The rate of discharge would determine impact intensity to streams; the higher the rate, the greater the power to erode stream channels and banks. Water quality would be tested for quality prior to discharge under state regulations. Other depletion issues are addressed in Section 4.1.7, Special Status Species under Colorado River Fish.

Mitigation:

A SWMP is included in the POD. Additional BMPs such as water bars and other erosion control measures would be installed as determined necessary by the Authorized Officer. Reclamation and monitoring measures would also be incorporated into the ROW grant as conditions of approval.

No discharge of hydrostatic testing waters should occur in Jerry Gulch due to its identification as a water source for the Ute Water Conservancy District and good fishery. Discharge into Shire, Atwell and Little Anderson Gulch would be preferable to overland discharge. The discharge points should be appropriately armored to dissipate energy, considering the fragile soils over much of the area.

Ground Water: No impact on ground water resources is anticipated. The relatively shallow depth of pipeline installation is not expected to encounter ground water. In the event of a leak or spill of contaminants, local ground water could be at risk. That risk would be minimized if applicable laws and regulations are followed and BMPs are properly implemented.

Environmental Consequences/Mitigation of the No Action Alternative:

Surface water: Under the No Action Alternative, the Proposed Action would not be constructed and associated impacts would not occur.

Ground Water: Under the No Action Alternative, the Proposed Action would not be constructed and associated impacts would not occur.

Environmental Consequences/Mitigation of Alternative A:

Surface water: The portion of the alignment that deviates from the Proposed Action crosses at a higher point in the Shire Gulch drainage. Several small intermittent drainages crossings would occur rather than four crossing in the Proposed Action. The drainages crossed in Alternative A are the tributaries of the drainages that would be crossed under the Proposed Action. Due to steep terrain and unstable soils, the potential for erosion and sedimentation is high in this area. However a road currently crosses these slopes and potential for erosion is an existing condition. Surface disturbance and redisturbance during and immediately after construction would result in increased erosion and sedimentation in the short term. In three to five years erosion and sedimentation would return to existing conditions. Other impacts and mitigation would be the same as the Proposed Action.

Ground Water: Impacts and mitigation would be the same as the Proposed Action.

Environmental Consequences/Mitigation of Alternative B:

Surface water: Impacts and mitigation would be the same as the Proposed Action.

Ground Water: Impacts and mitigation would be the same as the Proposed Action.

Finding on the Public Land Health Standard 5 for Water Quality:

Water quality in the affected stream segments currently meets water quality standards set by the State. With proper implementation of mitigation measures, storm water management and successful reclamation; water quality would not change from present conditions. Therefore, Standard 5 for water quality should be met. Standard 5 should continue to be met under the No Action alternative.

4.2 Other Affected Resources

4.2.1 Access and Transportation

Environmental Consequences of the Proposed Action:

Pipeline construction traffic would travel along the existing access routes during construction. The increase in traffic associated with the pipeline construction would be inconsequential relative to the existing traffic along I-70, State Highway 65 and major county roads. Where the proposed route follows existing secondary roads, at least one lane of access would generally be maintained. Given the slow travel speeds, the additional delay would have a low impact. In environmentally sensitive areas where the 'stove piping' technique is used to bury the pipeline immediately under the road, access may need to be blocked for up to a few days while the construction of the section is conducted. This would impact other oil and gas development traffic and possibly casual recreational users. This impact would be to through traffic. Access would be open from each end of the proposed line, but travel times would be increased by having to drive around the construction on other state and county roads. Overall, impacts are expected to be low and temporary.

Mitigation:

Construction would comply with permit requirements from State and county regulatory agencies and the USFS to assure that roads are repaired after construction and that adequate traffic control is implemented to protect the traveling public.

Environmental Consequences/Mitigation of the No Action Alternative:

Under the No Action Alternative, the Proposed Action would not be constructed and associated impacts would not occur.

Environmental Consequences/Mitigation of Alternative A:

Generally the impacts would be the same as the Proposed Action. However, construction using the 'stove piping' technique along much of V Road or NFSR 274 is anticipated in this alternative. Consequently, impacts associated with disruption to access and transportation would be greater.

Environmental Consequences/Mitigation of Alternative B:

Generally the impacts would be the same as the Proposed Action. Slightly less of the proposed route in this alternative follows existing roads. Consequently, impacts would be marginally less than the Proposed Action.

4.2.2 Geology and Minerals

Environmental Consequences/Mitigation of the Proposed Action:

The proposed activities would result in the removal of surface materials and the excavation of subsurface materials along the proposed corridor. Extraction and displacement of sedimentary rocks would occur. There would be no effect on mineral resources and little effect on geologic resources. Earth movement (i.e.: soil creep, planar block glides, rotational slumps) could be initiated or accelerated as a result of construction activities. Especially in the Shire Gulch area, geotechnical issues need to be considered during construction. The applicant should be required to submit complete engineering plans that are reviewed and approved by the Authorized Officer before construction is allowed to occur through the Shire Gulch canyon.

Environmental Consequences/Mitigation of the No Action Alternative:

Under the No Action Alternative, the Proposed Action would not be constructed and associated impacts would not occur.

Environmental Consequences/Mitigation of Alternative A:

Geotechnical issues are a concern for approximately 0.6 mile of additional length along the Alternative A route as compared to the Proposed Action. The requirement for complete engineering plans prior to construction would be the same. Other impacts would be the same as the Proposed Action.

Environmental Consequences/Mitigation of Alternative B:

Impacts would be the same as the Proposed Action.

4.2.3 Paleontology

Environmental Consequences of the Proposed Action:

Any new disturbance associated with burying a pipeline could result in the uncovering or destruction of paleontological resources. However, the project area is characterized by generally thick soil deposits and the likelihood of encountering paleontological resources during construction activities is low. Paleontological resources identified would be protected by avoidance or mitigation. No impacts to paleontological resources would occur.

Mitigation:

A survey would not be required prior to the BLM authorization. However, if any fossils are noticed at anytime, the Authorized Officer must be notified so the resource can be recorded, evaluated, stabilized, or mitigated.

Environmental Consequences/Mitigation of the No Action Alternative:

Under the No Action Alternative, the Proposed Action would not be constructed and associated impacts would not occur.

Environmental Consequences/Mitigation of Alternative A:

Impacts and mitigation would be the same as the Proposed Action.

Environmental Consequences/Mitigation of Alternative B:

Impacts and mitigation would be the same as the Proposed Action.

4.2.4 Noise

Environmental Consequences/Mitigation of the Proposed Action:

Construction of the pipeline would generate moderate noise levels. Based on an average construction site noise level of 85 dBA at 50 feet from the site, the construction noise could be above 55 dBA within 1,500 feet of the site. 55 dBA is not a regulatory requirement, but a threshold which is recognized as a level that there is no reason to suspect that the public health and welfare would be at risk from any of the identified effects of noise (EPA 1974). Elevated noise levels would occur along access roads as vehicles and heavy equipment would travel to the site. People and wildlife could be disturbed by elevated noise levels during construction. However, elevated noise levels would occur between sunrise and sunset and would be of relatively short duration. No specific mitigation is identified.

Environmental Consequences/Mitigation of the No Action Alternative:

Under the No Action Alternative, the Proposed Action would not be constructed and associated impacts would not occur.

Environmental Consequences/Mitigation of Alternative A:

Impacts and mitigation would be generally the same as the Proposed Action. Slightly, more of this alternative is along Sunnyside Road. Consequently, impacts to travelers along Sunnyside Road would be slightly elevated by the noise during construction.

Environmental Consequences/Mitigation of Alternative B:

Impacts and mitigation would be generally the same as the Proposed Action. However, more of this alternative is distant from the main V Road. Consequently, travelers along V Road would be impacted less by the noise.

4.2.5 Range

Environmental Consequences of the Proposed Action:

Surface-disturbing activities associated with pipeline construction would result in the initial loss of approximately 1.5 AUM of forage on BLM allotments. The loss would persist until successful reclamation of disturbed areas occurred. On areas that are disturbed and rehabilitated, herbaceous vegetation and herbaceous forage production typically recovers to pre-disturbance levels in approximately three to five years depending on moisture conditions.

It is anticipated that the level of impacts expected from implementation of the Proposed Action would not require the adjustment of stocking rates. The level of forage utilization would be monitored on affected allotments and, if necessary, adjustments in livestock use would be made to protect land health.

The taking down of fences and removal of cattle guards would allow cattle to escape their pasture. The open trench would present a hazard to livestock and limit movement within the allotment.

Mitigation:

Any range improvements (i.e., fences and cattle guards) that are removed by the pipeline construction should be repaired as soon as possible. During construction, the trench should be backfilled as soon as possible to minimize the hazard to livestock and measures should be taken to ensure cattle stay within their prescribed areas. Reseeding the disturbed areas should be coordinated with the permittees to avoid cattle grazing new seedlings until the re-vegetation is established. Conditions of Approval for water quality, reclamation and weed control would help mitigate range impacts. In addition, EnCana as part of their design features have offered to purchase grazing permits in the Atwell Gulch area. This could affect all or portions of the Sunnyside Common and Halfway House allotments. The Heeley permit has been retired primarily due to special status species and wildlife concerns.

Environmental Consequences/Mitigation of the No Action Alternative:

Under the No Action Alternative, the Proposed Action would not be constructed and associated impacts would not occur.

Environmental Consequences/Mitigation of Alternative A:

This would affect less than 1.4 AUM of forage on BLM allotments. Impacts to forage would be slightly higher than those in the proposed action. Impacts and mitigation would be generally the same as the Proposed Action.

Environmental Consequences/Mitigation of Alternative B:

This would affect less than 1.4 AUM of forage on BLM allotments. Impacts to forage would be slightly higher than those in the proposed action. Impacts and mitigation would be generally the same as the Proposed Action.

4.2.6 Land Use Authorizations

Environmental Consequences of the Proposed Action:

There are no BLM or Forest Service designations or administrative determinations that would preclude approval of the Proposed Action. The Proposed Action would not conflict with any of the existing realty authorizations of record. For the BLM parcel designated "Gd – Emphasis on Land Disposal", construction of the proposed pipeline would not unduly depreciate the tract's appraised values.

Approval of the Proposed Action would require the issuance of a ROW grant and Temporary Use Permit. During construction, 75 foot to 100 foot wide workspaces are requested. A 50 foot wide ROW width has been requested for the pipeline. An additional 25 feet of extra workspace has been requested along the entire length of the pipeline. Some areas would require another additional 25 feet of temporary construction workspace to accommodate steep and side hill slopes and crossings of roads and drainages. All of the requested extra workspace would be authorized under a Temporary Use Permit (TUP). These areas are portrayed on the maps in Appendix 1. The term of the ROW would be 30 years, and the term of the TUP would be 3 years.

Mitigation:

The POD would be incorporated into and made a part of the grant. Mitigation measures designed to protect natural and cultural resources that are developed in this analysis would be required as conditions of approval of the grant. If the Proposed Action is authorized the applicant would be required to contact any other ROW holders in the area and complete any necessary agreements before beginning construction. The applicant would also be required to have copies of the ROW grants, stipulations, and POD on site during construction. All construction activities would need to be conducted in strict conformity with the terms and conditions of the ROW grants. Pipeline location warning signs displaying the ROW number and applicants contact information would need to be installed within 5 days of completing construction, and maintained as deemed necessary by the Authorized Officer. In addition, a letter of concurrence from the WRNF would need to be received prior to offering a ROW grant and TUP. A "Notice to Proceed" stipulation would be included in the ROW grant and TUP.

Environmental Consequences/Mitigation of the No Action Alternative:

Under the No Action Alternative, the ROW grant would not be approved and the Proposed Action would not be constructed.

Environmental Consequences/Mitigation of Alternative A:

All ROWs in the Proposed Action would also be impacted in this alternative. Impacts and mitigation would be the same as the Proposed Action. An additional letter of concurrence would be necessary from the GMUG.

Environmental Consequences/Mitigation of Alternative B:

All ROWs in the Proposed Action would also be impacted in this alternative. Impacts and mitigation would be the same as the Proposed Action.

4.2.7 Recreation

Environmental Consequences of the Proposed Action:

The estimated construction period for the proposed pipeline is approximately six months. Construction of the pipeline would alter the recreation setting and the recreation experience in the project area on a short-term basis. Interruptions in travel along roads, noise generated by construction equipment and fugitive dust generated on a routine basis would all contribute to making the project area a poor recreation site during the construction period. Depending on project approval and the construction schedule, the proposed pipeline could be constructed in the summer and fall of 2008. Current levels of use would likely be reduced during the period of development. The activity associated with the project would, in all probability, cause big game, and thus big game hunters, to disperse to other parts of GMUs 42 and 421 during active pipeline construction and reclamation.

During pipeline construction, recreationists would encounter modifications to the landscape in excess of expectations and would have an increased chance of encountering construction personnel and equipment. Limiting new disturbance to previously disturbed areas would decrease long term impacts to recreationists and would enhance their experience. Some recreationists would be inconvenienced and could be forced to change their plans because of the

project. However, impacts could be mitigated by signage or other forms of notice alerting recreationists to the nature, extent and duration of the project. A potential safety issue may be created by the coexistence of two incompatible activities as hunters may fire their arms close to construction activities and endanger construction personnel. Access controls such as fencing, large rocks, and signs should be used to discourage use of motorized vehicles (primarily ATVs) along the reclaimed ROW.

In the long term, installing the proposed pipeline would amount to a small incremental change in the character. The setting and the recreation experience would not be greatly affected. The project area would remain within the constraints of the WRNF SPNM designation for that area. In the northern portion of the proposed route along the I-70 corridor, the ROS setting would remain "Roaded Natural". However the physical, social and administrative setting components would shift closer to a "Rural" ROS setting because of landscape modifications, use and the more evident sights and sounds of development.

Mitigation:

At the conclusion of pipeline construction and reclamation, off road vehicle access controls would be placed in areas where the pipeline ROW diverges from existing roads. The types and locations of access controls would be determined by the Authorized Officer.

Environmental Consequences/Mitigation of the No Action Alternative:

Under the No Action Alternative, the Proposed Action would not be constructed and associated impacts would not occur.

Environmental Consequences/Mitigation of Alternative A:

Impacts and mitigation would be generally the same as the Proposed Action. Given the higher emphasis on semi-primitive recreation within the GMUG, short term impacts to motorized recreation would be higher on the Forest. Impacts to off road recreation in the project area would be lower by confining the disturbance to previously disturbed areas. The project area would remain within the constraints of the GMUG SPNM designation for that area.

Environmental Consequences/Mitigation of Alternative B:

Impacts and mitigation would be the same as the Proposed Action. Although more of this alternative is on private lands, the nature of impacts to big game and hunting would remain essentially the same.

4.2.8 Socio-Economics

Environmental Consequences/Mitigation of the Proposed Action:

Construction of the pipeline could require a maximum workforce of up to 300 people. The duration of construction is estimated to be approximately six months. The Proposed Action is of limited duration and the oil and gas industry in Garfield and Mesa Counties is relatively large and mature. The influx of people from outside the area would be relatively small and temporary. Only specialty equipment and personnel would come from outside the area. The likelihood is that all or most of the labor and equipment used would be drawn from local sources. This means that little or no change would be produced in the size of the local workforce or the local population. Sufficient infrastructure (i.e., government services, retail, housing) already exist.

Motels, restaurants, grocery stores, gas stations, vehicle and equipment repair shops may all experience additional activity. The facilities developed by the Proposed Action would nominally expand the local property tax base. The net effect of these impacts would be considered beneficial, but very minor.

Environmental Consequences/Mitigation of the No Action Alternative:

Under the No Action Alternative, the Proposed Action would not be constructed and associated impacts would not occur.

Environmental Consequences/Mitigation of Alternative A:

Impacts would be the same as the Proposed Action.

Environmental Consequences/Mitigation of Alternative B:

Impacts would be the same as the Proposed Action.

4.2.9 Soils (includes an analysis of Public Land Health Standard 1)

Environmental Consequences of the Proposed Action:

The Proposed Action would require the removal of vegetative surface cover and disturbance of the soil, thus potentially increasing soil erosion and reducing soil health and productivity. Other potential impacts include soil contamination, compaction and stream bank/channel instability. The increased erosion would lead to increased sedimentation in watercourses and loss of vegetative cover on the side slopes in the short-term before vegetation becomes reestablished. Snowmelt and rainfall may move soil indirectly, by means of runoff in rills (small channels) or gullies (larger channels). Rill and gully erosion is the dominant form of erosion in the project area. The main on-site impact is the reduction in soil quality, which results from the loss of the nutrient-rich upper layers of the soil and the reduced water-holding capacity of the eroded soils. Erosion's main off-site effect is the movement of sediment and larger material into intermittent and perennial watercourses. This can lead to the silting-up of dams and disruption of the ecosystems. In some cases, increased downstream flooding may also occur due to the reduced capacity of eroded soil to absorb water.

Sensitive soils on steep slopes are the most prone to erosion and loss. Erosion and sedimentation is of particular concern in steeper drainages with erosive soils. The depth of all soils range from 0 – 60 inches depending on slope and aspect. Deeper soils along gentle slopes and in bottom lands have a higher reclamation potential. However, these soils can also be susceptible to gully erosion when disturbed. The loss of soil and increased sedimentation potential would occur after the construction phase and until re-vegetation is complete. The estimated length of time to successfully reestablish vegetative cover is approximately three to five years with adequate moisture conditions. Reestablishment of vegetation may take substantially longer to achieve in areas with shallow rocky soils, or in areas with little to no top soil. Shallow soils along steep side hills would take longer to reclaim and would also have greater erosion. Areas that contain large rock outcrops or substantial rimrock are expected to have very little to no topsoil. Increased soil erosion above normal background levels is expected to occur in steep drainages where blasting of rim rock would occur during construction. These areas are expected to recover more slowly than areas with top soils containing organic matter and pre-existing seed banks.

There would be some minor permanent loss of soil that would occur as a result of the Proposed Action. Loss of erosive soil on long steep slopes into major drainages is a concern. Soil movement on such slopes would be impacted by increased water velocity through and into the drainage. (Also see 4.1.9, Water Quality for an additional discussion of erosion and sedimentation.)

Of the total estimated Federal surface disturbance of approximately 107 acres, approximately 47 acres would be within surface previously disturbed by adjacent road and pipeline construction and 60 acres would be new surface disturbance. The disturbance is considered to be short-term as the reclaimed area would be seeded in the first available seeding season per BLM and USFS requirements.

Mitigation:

As a condition of the permit, a SWMP would be incorporated showing how BMPs are used to control runoff and sediment transport. Stormwater BMPs would need to be in place before the beginning of construction activities. Segregation of topsoil and replacement of topsoil in its respective original position would assist in the reestablishment of soil health and productivity. Top soil should not be used to bed the pipe. Vegetation removal and top soil segregation should not be allowed to occur when soils are saturated or frozen. All construction activity including travel on the ROW should cease if ruts greater than 3 inches are created by vehicles. During construction, soil disturbance and vegetation removal would be minimized to the amount necessary for construction. The applicant should be required to submit complete engineering plans that are reviewed and approved by the Authorized Officer before a Notice to Proceed is authorized and construction is allowed to occur through the Shire Gulch canyon. Reclamation and monitoring measures would be incorporated into the ROW grant as stipulations. After the pipe trench has been backfilled and topsoil redistributed across the construction corridor, salvaged brush and unmerchantable timber would be spread across disturbed soils for the portion of the project in the GJFO. Salvaged brush and unmerchantable timber would be hydro-axed or chipped and spread disturbed soils along the portion of the project in the GSFO as directed by the Authorized Officer. Soil should be ripped and left rough prior to seeding to facilitate seed germination and establishment. Top soil should be placed back on the rough soil surface and the soils should be seeded. Soils would be left rough with rocks scattered along the surface to mimic surrounding conditions on undisturbed soils. Soils should be seeded within 30 days of the completion of construction and within 48 hours of topsoil placement back on the ROW. A winter construction plan should be submitted and approved through a Notice to Proceed before any construction activities commence on the ROW during winter months.

Environmental Consequences/Mitigation of the No Action Alternative:

Under the No Action Alternative, the Proposed Action would not be constructed and associated impacts resulting from surface disturbing activities would not occur.

Environmental Consequences/Mitigation of Alternative A:

Of the total estimated Federal surface disturbance ranging from 109 to 124 acres depending on necessary construction width, approximately 52 acres would be within surface previously disturbed by existing adjacent road and pipeline, and approximately 57 to 72 acres would be new surface disturbance. This alternative route follows Sunnyside Road and crosses several ephemeral stream channels. The side slopes are steep in some locations at greater than 40

percent with fragile soils that have the potential for flash flooding. Approximately 12-27 acres under the minimum and maximum estimated construction widths respectively, of NFS lands with soils rated as having a high to very high runoff potential and severe to very severe erosion hazard would be impacted. Impacts to stream bank and channel instability would be highest immediately following construction before the soil surface hardens and plants and biotic crusts become established. If the toe slopes along the road are disturbed they have the potential to lose their ability to support the material above and slide. If these soils are not properly supported then they may slide to the appropriate angle of repose (USFS GMUG 2008). BMPs such as drainage armoring, surface roughening, and proper contouring should be used to stabilize sensitive areas. Drainage armoring would help to reduce short-term impacts and long term impacts along the road. The applicant should be required to submit complete engineering plans that are reviewed and approved by the Authorized Officer before construction is allowed to occur along the portion of the route across the GMUG. Other impacts and mitigation would be generally the same as the Proposed Action. (Also see 4.1.9, Water Quality for an additional discussion of erosion and sedimentation.)

Environmental Consequences/Mitigation of Alternative B:

Impacts and mitigation would be generally the same as the Proposed Action. Of the total estimated Federal surface disturbance of approximately 98 acres, approximately 42 acres would be within surface previously disturbed by adjacent road and pipeline construction and 56 acres would be new surface disturbance.

Finding on the Public Land Health Standard 1 for Soils:

Currently, all indications are that Standard 1 is met in the project area. The Proposed Action and Alternatives A and B would add to the cumulative impact from right-of-way development and surface disturbing activities. With successful reclamation, neither the Proposed Action nor the alternatives would change this status. The No Action Alternative would have no bearing on the Public Land Health Standard.

4.2.10 Vegetation (includes an analysis of Public Land Health Standard 3 for Vegetation)

Environmental Consequences of the Proposed Action:

Vegetation on BLM and NFS lands would be affected by project development. Affected communities are predominantly piñon-juniper woodlands and sagebrush shrublands. Section 3.2.10, Vegetation, provides a break down of acres in each vegetation type by ownership. Approximately 103 acres of vegetation on BLM lands would be affected. Since the pipeline alignment parallels areas that have been previously disturbed over large segments of the proposed alignment, affects due to additional fragmentation of intact communities would be minimized. Sagebrush/Salt Desert shrublands and piñon-juniper woodlands are both common and abundant in the Battlement Mesa area along the proposed alignment. The long-term affects to these communities are likely measured in the success of the reclamation including reestablishment of viable native plant communities relative to the potential of the environmental conditions in the area. With exception is the pinyon-juniper community which would require approximately 300 years to develop a climax community.

Approximately 4 acres of WRNF piñon-juniper and sagebrush/Salt Desert shrublands would potentially be affected by the project. Through the NFS lands, the pipeline would parallel existing NFSR 274, which would reduce the potential for additional vegetation fragmentation.

Both plant community types are abundant in the project area and management of encroaching piñon-juniper to improve sagebrush shrublands is a habitat improvement priority in the WRNF in this area (WRNF 2006).

As part of EnCana's Design Features incorporated into the Proposed Action, they have committed to fund the completion of 500 acres of habitat enhancement (i.e.; roller chopping or other alternative vegetation clearing) not to exceed $100,000. Depending on the objectives, the vegetative community mix would be marginally altered and there would be indirect impacts to other resources such as wildlife.

Mitigation:

During construction, vegetation removal would be minimized to the amount necessary for construction. Reclamation would provide a basis for re-vegetation of areas where natural plant communities were affected. Seed selection for reclamation would follow recommendations of the BLM, USFS and fee-landowners. Mitigation developed for water quality, erosion, weed control and reclamation would effectively mitigate potential impacts to vegetation and are included as Conditions of Approval.

Recommended Seed Mixes for the GJFO/WRNF:

Mid-Elevation Sage Grouse Seed Mix		
Species	Rates (lbs PLS/acre)	Application Area
Western wheatgrass (Rosanna)	1.0	South of and including T9S, R97W, Sec 12 SWSW N 4353187 W227209
Indian ricegrass (Rimrock)	1.0	
Bluebunch wheatgrass (Whitmar)	1.0	
Thickspike wheatgrass (Critana)	1.0	
Letterman needlegrass	1.0	
Blue flax (Maple Grove)	.5	
Rocky Mountain Penstemon	.5	
Utah or Northern sweetvetch	1.0	

Standard Seed Mix		
Species	Rates (lbs PLS/acre)	Application Area
Western Wheatgrass (Rosanna)	3	North of and including T9S, R97W, Sec 12 NWSW to the GSFO boundary N 4353187 W227209
Pubescent Wheatgrass (Luna)	3	
Indian ricegrass (Rimrock)	3	
Four-wing Saltbush (Rincon)	2	

Badlands Seed Mix (Badlands Range Site)		
Species	Rates (lbs PLS/acre)	Application Area
Siberian Wheatgrass (P27)	3	Badlands Soil types as shown on SCS Soil Survey maps in the GJFO
Russian Wildrye (Bozoisky)	2	
Crested Wheatgrass (Hycrest)	3	
Blue Flax	.5	

Four-wing Saltbush (Rincon)	2	

- All of the above rates are for drilled seed. For broadcast seeding the rate is doubled.
- The soil surface texture is to remain rough to enhance re-vegetation success, especially on badland soils.
- All of the above seed is to be certified and free of noxious weed seed. All seed certification tags must be submitted to the BLM within 30 days of seeding.
- Pinyon/ juniper would be piled separate from the soil stockpile and following seeding would scattered across the pipeline right-of-way. Pinyon/juniper would be purchased from the BLM prior to the start of construction. (Estimated volume in cords is: Preferred Alt. 187.8 cords, Alts. A and B, 131 cords for an estimated value of $4,695.00 and $3,285.00 respectively.
- Portions of the pipeline within the **GSFO** should be reclaimed in accordance with the reclamation requirements described in the GSEO May 1, 2008 Revisions to BLM Energy Office Revegetation Requirements Letter. Reclamation procedures should be approved by the GSFO Authorized Officer prior to the commencement of any reclamation activities associated with the Collbran Pipeline within the GSFO.

CDPHE construction storm water permits require establishment of 70 percent of the pre-disturbance vegetative cover for a site to be finally stabilized. GMUG and WRNF require 75 percent of the pre-disturbance vegetative cover to be established for re-vegetation to be considered successful.

Environmental Consequences/Mitigation of the No Action Alternative:

Under the No Action Alternative, the Proposed Action would not be constructed and associated impacts would not occur.

Environmental Consequences/Mitigation of Alternative A:

Construction along the section that deviates from the Proposed Action would affect 4 acres of vegetation on BLM lands including 2 acres of piñon-juniper and 2 acres of sagebrush. On NFS lands within the GMUG, the potential disturbance under the maximum possible construction width is estimated at 14 acres of piñon-juniper woodlands and 10 acres of sagebrush shrublands could be affected. Impacts and mitigation to these plant communities would be similar to the discussion in the Proposed Action.

Environmental Consequences/Mitigation of Alternative B:

Construction along the section that deviates from the Proposed Action would affect 2 acres of piñon-juniper vegetation on BLM lands. Impacts and mitigation to these plant communities would be similar to the discussion in the Proposed Action.

Finding on the Public Land Health Standard 3 for Vegetation:

A LHA has not been completed for the portion of the project area administered by the GJFO. However, anecdotal observations suggest that this standard is being met. A LHA has been completed for the Battlement Mesa area (BLM 2000) that is administered by the Glenwood

Springs Field Office. Specific concerns relate to the condition of big game winter range and corresponding sagebrush and pinyon juniper habitats. Sagebrush sites not achieving the standard contain few perennial grasses with low plant diversity. Juniper invasion is also occurring. Sites that are achieving the standard generally contain a better species mix with higher plant diversity and better perennial grass and forb component. Assuming proper and timely reclamation, the Proposed Action or Alternatives should result in minimal effects on vegetation and would have no negative effects on the ability to maintain or meet Standard 3. The No Action Alternative would have no bearing on the Public Land Health Standard.

4.2.11 Visual Resources

Environmental Consequences of the Proposed Action:

As proposed, the pipeline route is adjacent to the road as it descends down Samson Mesa, joins V.50 Road and continues to the terminus. Vegetation removal (especially mature piñon-juniper), pipeline construction and reclamation activities have the potential to increase contrast within the existing views. The proposed alignment's gentler grade, topography and vegetation provide good screening effects. With the use of Design Features and best management practices, visual impacts would be minor and related to an increase in the contrast. It would meet VRM Class II objectives because it would not increase visibility from the major view points along I-70. On the remainder of the BLM managed lands, Class III Objectives would be met.

Along the portion of the Proposed Action in the WRNF, the route is adjacent to, or stove piped under Sunnyside Road (NFSR 274). Where the pipeline deviates from the Sunnyside road to avoid crossing the Forest Service the pipeline would follow an existing pipeline for approximately ¼ mile and then dive approximately 250 feet down a north facing slope of scree and mature pinyon juniper, then the pipeline would cross a rim-rocked point between two drainages removing this point (approximately 50 feet in height). The route would ascend the opposite canyon wall consisting of rimrock and large boulders (450 feet in height). The crossing of this canyon would negatively alter the character of this canyon permanently by changing a rimrock canyon into a sloped scree slope and create an additional linear feature that would be visible primarily from the air.

Mitigation:

Any surface exposed pipeline and all other surface facilities shall be painted a non-reflective Shale Green color or another color that blends with the natural environment. Any rimrock formations or large surface rock formations that are disturbed would be re-constructed to blend as closely as possible with surrounding features. The applicant would feather the edges of forested sections of the route to decrease contrasts in line. During reclamation, vegetation debris and rocks shall be scattered intermittently throughout the corridor to break up color, texture, and form contrasts. During the reclamation, slopes shall be re-contoured to approximate the natural topography.

Environmental Consequences/Mitigation of the No Action Alternative:

Under the No Action Alternative, the Proposed Action would not be constructed and associated impacts would not occur.

Environmental Consequences/Mitigation of Alternative A:

Impacts and mitigation would be substantially the same as the Proposed Action. Along the portion of the Proposed Action in the GMUG, the alternative route is adjacent to, or stove piped under Sunnyside Road. Additional visual impacts would be minor.

Environmental Consequences/Mitigation of Alternative B:

Under Alternative B, the pipeline route descends off Samson Mesa in Section 17, T. 8 S., R. 96 W., 6th PM (see Appendix 1, Map 3). The steepest segment coming off the mesa is approximately 0.3 miles long and surface ownership is a combination of private and BLM. The construction on this segment would create new surface disturbance including the removal of mature pinion-juniper trees. The alternative route is tucked into a small drainage to hide the visual affects as much as possible. However, for a short section of I-70 there is visibility up the small drainage. Even with reclamation, the contrast between grasses and forbs and the surrounding pinion-juniper would be high and noticeable for the long term. Class II Objectives would not be met since the new disturbance would most likely attract the attention of the casual observer. Impacts and mitigation on the remainder of the route would be the same as the Proposed Action.

Mitigation:

The following mitigation measures would be applied to pipeline construction in Section 17, T. 8 S., R. 96 W., 6th PM to decrease the contrast within existing views.

- Efforts shall be made to feather the edges of vegetation clearing to reduce straight line contrasts,
- Upright vegetation should be thinned and given an undulating edge to emulate the transitional edges of adjacent upright vegetation,
- Efforts shall be made to leave as much existing vegetation as possible to screen the excavated disturbances,
- During reclamation, vegetation debris and rocks shall be scattered intermittently throughout the corridor to break up color, texture, and form contrasts.
- Final reclamation shall include the breaking up of monocultures of vegetation and/or soil caps,
- During the reclamation, slopes shall be re-contoured to approximate the natural topography,
- Any remnant cut and fill slopes should have undulating contours which emulate the slopes in the adjacent landscape.

4.2.12 Wildlife, Aquatic (includes an analysis of Public Land Health Standard 3 for Wildlife)

Environmental Consequences of the Proposed Action:

Potential indirect affects are the same as those addressed in the endangered fish Section 4.1.7.A including hydrocarbon spills, stormwater runoff and effects associated with hydrostatic testing.

Mitigation:

Mitigation developed for water quality, erosion and reclamation would effectively mitigate potential impacts to aquatic wildlife and should be included as COAs.

Environmental Consequences/Mitigation of the No Action Alternative:

Under the No Action Alternative, the Proposed Action would not be constructed and associated impacts would not occur.

Environmental Consequences/Mitigation of Alternative A:

The portion of the alignment that deviates from the Proposed Action crosses at a higher point in the Shire Gulch drainage where steep slopes are shorter than further down the drainage. Several small intermittent drainages crossings would occur rather than four crossing in the Proposed Action. The drainages crossed in Alternative A are the tributaries of the drainages that would be crossed under the Proposed Action. Due to steep terrain and unstable soils, the potential erosion is high in this area. However a road currently crosses these slopes and potential for erosion is an existing condition. The existing road would also intercept and slow soil as they are transported down slope during precipitation events towards the steep confluence of these drainages into Shire Gulch. The protective barrier of the road is expected to less effective during intense precipitation events with heavy rainfall. Surface disturbance and redisturbance during and immediately after construction would result in increased erosion and sedimentation in the short term. In three to five years erosion and sedimentation would return to existing conditions. Potential affects could be higher compared to those that would occur along the Proposed Action. Other impacts and mitigation would be the same as the Proposed Action.

Environmental Consequences/Mitigation of Alternative B:

The portion of this route that deviates from the Proposed Action would result in three additional crossings of small intermittent drainages. Vegetation and terrain are similar to those in the Proposed Alternative. Impacts and mitigation would be the same as the Proposed Action.

Finding on the Public Land Health Standard 3 for Aquatic Wildlife:

A LHA has not been completed for the portion of the project area administered by the GJFO. However, anecdotal observations suggest that this standard is being met. A LHA has been completed for the Battlement Mesa area (BLM 2000) that is administered by the Glenwood Springs Field Office. Based on the assessment, Standard 3 is being met. Assuming proper and timely reclamation, the Proposed Action or Alternatives should result in minimal effects on aquatic wildlife and would have no negative effects on the ability to maintain or meet Standard 3 for aquatic wildlife. The No Action Alternative would have no bearing on the public land health standard.

4.2.13 Wildlife, Terrestrial (includes an analysis of Public Land Health Standard 3 for Wildlife)

MAMMALS

Environmental Consequences of the Proposed Action:

Approximately 130 acres of mule deer and elk winter range would be affected by project development. Sagebrush, greasewood and Salt Desert shrublands compose about 52 percent of

the affected vegetation and 48 percent is piñon-juniper woodlands. Sagebrush is important winter forage for both mule deer and elk. In winters where snow covers understory grasses and forbs, sagebrush becomes increasing important to these ungulates' winter diets, since its upper growth is available above the snowpack.

Shrublands are abundant in the project area and the temporary loss along the alignment likely would not affect densities or total numbers in the project area. Sagebrush recovery requires time but long-term reestablishment of this shrub species is important to the mule deer and elk forage base.

EnCana has proposed to construct the pipeline through the winter, when timing restrictions are usually applied to construction on BLM lands in order to protect winter range of deer and elk. Construction of the pipeline in the winter months would displace deer and elk that would otherwise forage close to the Sunnyside road. This would cause a larger concentration of animals in other areas and is likely to result in some animals being displaces to less desirable habitat. The increased traffic on the Sunnyside Road due to construction activity could result in some amount of animal and vehicle collisions. Construction during winter migration is likely to interrupt migration patterns and the open trench has the potential to entrap animals that fall into the trench.

Operator Committed Mitigation:
EnCana would employ the following mitigation measures to minimize the impacts to big game winter habitat:

- Install wildlife crossovers (trench plugs), with ramps on either side of the open trench, at maximum 1- mile intervals and at well-defined livestock and wildlife trails to facilitate passage of big game across the right-of-way and to prevent wildlife from being trapped in the trench.

- Complete construction (pipe installation, backfill, and rough grading) in major migration corridors, as identified by the BLM and CDOW, to allow wildlife unimpeded access across the construction workspace.

- Transport the majority of construction workers to the construction site via mass transit (i.e., buses or vans provided by the contractor or carpooling) to minimize vehicle traffic.

- Inform all persons associated with the project that vehicle collisions with wildlife would be reported. EnCana would provide weekly reports to the BLM documenting all vehicle/wildlife collisions.

- Restrict travel on Sunnyside Road to daylight hours only, at the request of the BLM.

- Seed disturbed areas with a wildlife-friendly seed mix.

- Redistribute large, woody material salvaged during clearing operations over the right-of-way to provide wildlife habitat seedling protection, and a deterrent to vehicular traffic for the portions of the pipeline in the GJFO.

- Redistribute large rocks, and woody material salvaged during clearing operations over the pipeline only near road crossings to provide wildlife habitat seedling protection, and a deterrent to vehicular traffic for portions of the pipeline in the GSFO. Woody material would be hydro-axed or chipped along other portions of the ROW in the GSFO.

- Prevent public access in big game winter range high value wildlife areas by installing road closure gates as necessary. These locations would be determined by the BLM and CDOW, and EnCana would install a locking steel frame gate with welded steel support braces and appropriate fence panels to ensure a defensible closure point. Any additional means necessary to prevent public motorized access such as shoulders or fencing may also be required and installed by EnCana.

- Complete 500 acres of habitat enhancement by feathering the edges of the right-of-way, roller chopping, or completing alternative vegetation clearing in suitable areas as determined by the BLM and CDOW. If these areas are located outside the corridor analyzed within the Collbran Pipeline Environmental Assessment, EnCana would commit the funding to complete required cultural, biological, and environmental analysis Total compensation for roller chopping and environmental analysis would not exceed $100,000.

- Evaluate placing the N½SW¼, S½ NW¼ Section 32, T.8 S., R. 96 W., 6th PM (+1- 160 acres) of EnCana's Sunnyside property into a conservation easement. EnCana would reserve all rights to develop oil and gas assets and related infrastructure along with the right to construct two residences.

The portion of the pipeline that crosses the WRNF is in Management Prescription 5.41 – Deer and Elk Winter Range. The Forest Plan Guideline that gives direction in this management prescription states, "Discourage special uses that require access during winter and spring periods" (WRNF Land Use Management Plan page 3-58).

EnCana has requested to construct the pipeline during the winter within the big game timing restriction period, which in the WRNF Forest Plan is December 1 to April 14. The heavy equipment operation associated with the pipeline construction would disturb and displace elk and deer in important winter range habitat. The amount of activity that is occurring on private and BLM land adjacent to the National Forest increases the value of winter range habitat on the National Forest. The WRNF has agreed to allow winter access on the portion of pipeline ROW on the Forest based on the implementation of the following mitigation measures:

- Install wildlife crossovers (trench plugs), with ramps on either side of the open trench, at maximum 1- mile intervals and at well-defined livestock and wildlife trails to facilitate passage of big game across the right-of-way and to prevent wildlife from being trapped in the trench.

- Transport the majority of construction workers to the construction site via mass transit (i.e., buses or vans provided by the contractor or carpooling) to minimize vehicle traffic.

- Restrict travel on Sunnyside Road to daylight hours only, at the request of the BLM and FS.

- Seed disturbed areas with a wildlife-friendly seed mix.

- Redistribute large, woody material salvaged during clearing operations over the right-of-way to provide wildlife habitat seedling protection, and a deterrent to vehicular traffic for the portions of the pipeline in the WRNF.

- Prevent public access in big game winter range high value wildlife areas by installing road closure gates as necessary. There are two user-created roads on the southeast side of the Sunnyside Road, and one on the northwest side of the Sunnyside Road near mile marker 11 on the WRNF. The Forest Service would request one closure using a locking steel frame gate with welded steel support braces and appropriate fence panels to ensure a defensible closure point, and the remaining closures using the redistribution of large rocks and woody material. Any additional means necessary to prevent public motorized access such as shoulders or fencing may also be required and installed by EnCana.

- EnCana agrees to contribute $25,000 toward big game habitat improvement projects within the vicinity of the Collbran Pipeline project. The Forest Service has NEPA completed on several prescribed burn projects in the Battlement area of the District, although some additional site specific burn planning is still needed. The Forest Service is also interested in conducting a pinyon-juniper encroachment project to enhance important sagebrush habitat in this area. NEPA, including biological and cultural surveys, needs to be completed, and a portion of this mitigation money would be used for this purpose.

Mountain lion, black bear, coyote, cotton-tail rabbit, jackrabbit, piñon mouse, deer mouse, woodrats, and gray fox wildlife habitat would be reduced in proportion to the removal of the vegetative types used by each species. Direct impacts may include increased mortality of larger mammal species and birds due to collisions with motor vehicles, or destruction of nests, burrows, or dens. Indirect impacts, such as increased noise, dust, vehicular traffic, and human activity could render nearby habitats less attractive to some species during construction.

Reclamation would provide a basis for re-vegetation of areas where natural plant communities would be affected. Effective reclamation with grasses and forbs would benefit the forage base in the near term. In areas where the pipeline does not parallel public roads and where the BLM has authority to close access, vehicular travel to new areas made accessible by project actions should be prevented.

Environmental Consequences/Mitigation of the No Action Alternative:

Under the No Action Alternative, the Proposed Action would not be constructed and associated impacts would not occur.

Environmental Consequences/Mitigation of Alternative A:

Alternative A would centralize the disturbance corridor to the existing road, though additional vegetation disturbance would occur along the road. Impacts are expected to be smaller as habitat fragmentation would be minimized. Mitigation includes avoidance of construction activities

from December 15 through April when elk are present on winter range and under additional stress. Exceptions would include mild winter conditions where elk would not be present or present in low numbers.

Environmental Consequences/Mitigation of Alternative B:

Impacts and mitigation would be the same as the Proposed Action.

BIRDS

Environmental Consequences of the Proposed Action:

Raptors: The four inactive raptor nests observed within 0.25 miles of the proposed pipeline alignment during 2007 biological surveys could be affected by construction actions. The potential affects to nesting raptors is low due to the low quality of the habitat; however, any formerly used nest could potentially become active during 2008 breeding season. New nests could be constructed during the 2008 breeding season. All birds including raptors are susceptible to disturbance and potential nest abandonment due to natural and unnatural (man-caused) intrusions into their nesting territory. The species most likely to occur along the proposed pipeline alignment are Red-tailed and Cooper's Hawks. Both species are common in the project area and common in the western Colorado.

The bald eagle nest located along the Colorado River at the northern end of the pipeline is susceptible to disturbance and potential nest abandonment due to natural and unnatural (man-caused) intrusions into their nesting territory. FWS Bald Eagle Guidelines state that the most sensitive bald eagle nesting activity period is during the courtship and nest building/nest maintenance period (January through mid-February). The entire nesting season period is considered sensitive, but if nesting is initiated and subsequently disrupted, then failure for a nesting season may result. Nest failure can occur due to various natural and human caused factors, but generally as nesting progresses, fidelity to the nest increases and chances of abandonment due to disturbance decrease.

The FWS Bald Eagle Management Guidelines (2007) indicate nesting chronology for bald eagles in Colorado ranges between 12/1 and 8/31 each year, but states that these dates may vary by region. The Guidelines recommend a 660 foot buffers for natural gas drilling, refining, and associated activities. This can be reduced to 330 feet if there is similar bald eagle tolerated activity of similar scope near the nest site. The Grand Junction Field Office has recently modified the National Guidelines to reflect the more open terrain and less visual barriers occurring in this portion of Colorado (USFWS 2008). Their recommendations include a year-round closure to surface occupancy within 0.25 miles of bald eagle nest sites and no human activity within a 0.5-mile radius of a nest site between October 15 and July 31.

The pair of bald eagles near the project area appear to have adapted and become acclimated to the disturbance factors, since these on-going activities occur near the nest that apparently was constructed during the 2008 nesting season. Monitoring of the nest site by CDOW indicates that the pair likely was successful in fledging chick in 2008. The FWS Guidelines recognize that on-going activities are likely to have less of an adverse affect on bald eagles than newly initiated actions within a nesting pair's territory. Based on successful nesting in 2008, pipeline

construction in the currently developed industrial area in and around the EnCana compressor would not adversely affect future bald eagle nesting.

Mitigation:

Raptor mitigation would involve a 0.25-mile buffer around an occupied nest site from February 1 to August 15. The stipulation may be suspended if a nest site is unoccupied by May 15. Status of known nests sites/new nest sites would be determined during the period of construction if actions are initiated within spatial and temporal stipulations.

Habitat affects can be mitigated by adequately reclaiming vegetation disturbed by project construction along the proposed pipeline alignment. Reclamation would encourage native grass species and reestablishment of sagebrush shrublands. The reestablishment of sagebrush shrublands in suitable potential habitat would benefit a variety of wildlife species and may encourage future use of the area by sage-grouse.

If construction and ground clearing activities were to occur during nesting season of bird species, direct impacts or loss of nests and individuals could occur and indirect impacts causing unsuccessful nesting may occur. These impacts can be minimized by limiting surface and vegetation disturbance outside the nesting season (May-July), when young of most species have fledged and have left their nests. No long-term impacts are anticipated to these species that tend to be generalists, widely dispersed, and secure in the general area due to the large amount of similar habitat available.

Environmental Consequences/Mitigation of the No Action Alternative:

Under the No Action Alternative, the Proposed Action would not be constructed and associated impacts would not occur.

Environmental Consequences/Mitigation of Alternative A:

One inactive raptor nest site was found within 0.25 miles of the east end of this alignment where it deviates from the Proposed Action. The potential affects to this nest site is low due to the low quality of the habitat; however, any formerly used nest could potentially become active during 2008 breeding season. New nests could potentially be constructed during subsequent breeding season. Other impacts and mitigation would be the same as the Proposed Action.

Environmental Consequences/Mitigation of Alternative B:

No active nests were found along this alignment where it deviates from the Proposed Action. Potential nesting habitat occurs within this piñon-juniper woodlands along this alignment. New nests could potentially be constructed during subsequent breeding seasons. Other impacts and mitigation would be the same as the Proposed Action.

AMPHIBIANS AND REPTILES

Environmental Consequences of the Proposed Action:

Individual amphibians and reptiles are likely to be impacted by the Proposed Action, however the populations as a whole are not expected to be impacted.

Mitigation:

Reclamation would provide a basis for re-vegetation of areas that provide habitat for these species. Restoration of contours along the pipeline alignment to original conditions would ensure the flow of water into existing ephemeral water collection sites that may support amphibian habitat. Care should be taken to avoid indiscriminate killing of snakes by providing educational instructions to contractors.

Environmental Consequences/Mitigation of the No Action Alternative:

Under the No Action Alternative, the Proposed Action would not be constructed and associated impacts would not occur.

Environmental Consequences/Mitigation of Alternative A:

Impacts and mitigation would be the same as the Proposed Action.

Environmental Consequences/Mitigation of Alternative B:

Impacts and mitigation would be the same as the Proposed Action.

Finding on the Public Land Health Standard 3 for Terrestrial Wildlife:

A LHA has not been completed for the portion of the project area administered by the GJFO. However, anecdotal observations suggest that this standard is being met. A LHA has been completed for the Battlement Mesa area (BLM 2000) that is administered by the Glenwood Springs Field Office. Habitat condition within this area appear suitable for species known or likely to occur. However, large portions of the landscape are being fragmented due to extensive natural gas development. Continued habitat fragmentation is of concern, because large blocks of contiguous, intact habitat are required by many species. Sustained development and the proliferation of roads, well pads, pipelines, compressor stations, tank farms and other surface facilities will continue to reduce habitat patch size and affect both habitat quality and quantity. The potential to impact some species would increase as development continues. The Proposed Action in conjunction with similar activities throughout this watershed would increase fragmentation and could increase sediment loads. Although the contribution of the Proposed Action would be minimal, it may further trend the area away from meeting Standard 3.

4.2.14 Forest Service Wildlife Management Indicator Species

Environmental Consequences of the Proposed Action:

The Brewer's Sparrow is also a BLM-sensitive specie and is addressed in Section 3.2.13 and 4.2.13, Terrestrial Wildlife. The other Management Indicator Species that occur in the project area are elk and wild Merriam's turkey.

The proposed pipeline alignment is located on elk winter range and evidence of elk use was noted throughout the project area during 2007 biological surveys. The Proposed Action passes through the WRNF for approximately 0.3 miles. It would not result in the fragmentation of additional elk winter range since it parallels NFSR 274. The loss of elk habitat on NFS lands is minor due to the construction occurring adjacent or under NFSR 274.

Affects to wild turkey are unlikely to occur. The Proposed Action affects overall and winter range habitat in the area of the Colorado River and no NFS lands are involved.

Mitigation:

Reclamation would provide a basis for re-vegetation of areas where natural plant communities would be affected. Reclamation with suitable grass species and long-term reestablishment of sagebrush shrublands would benefit elk by providing additional winter forage. Mitigation includes avoidance of construction activities from December 15 through April when elk are present on winter range and under additional stress. Exceptions would include mild winter conditions where elk would not be present or present in low numbers.

Environmental Consequences/Mitigation of the No Action Alternative:

Under the No Action Alternative, the Proposed Action would not be constructed and associated impacts would not occur.

Environmental Consequences/Mitigation of Alternative A:

Alternative A also parallels NFSR 274 for approximately 1.4 miles in the GMUG. Impacts and mitigation would be the same as the Proposed Action.

Environmental Consequences/Mitigation of Alternative B:

Impacts and mitigation would be the same as the Proposed Action.

4.2.15 Forest Service Research Natural Area

Environmental Consequences of the Proposed Action:

Although the WRNF lands are designated as the Lower Battlement Mesa RNA, there is a 300 foot buffer along Sunnyside Road. The Proposed Action calls for the pipeline to be adjacent to, or under the Sunnyside Road. Consequently, there would be no impacts affecting the RNA and the Proposed Action would be permissible.

Mitigation:

Any potential impacts to these characteristics would be mitigated through project design criteria including erosion control, timing limitations, re-vegetation, etc.

Environmental Consequences/Mitigation of the No Action Alternative:

Under the No Action Alternative, the Proposed Action would not be constructed and associated impacts would not occur.

Environmental Consequences/Mitigation of Alternative A:

Impacts and mitigation would be the same as the Proposed Action.

Environmental Consequences/Mitigation of Alternative B:

Impacts and mitigation would be the same as the Proposed Action.

4.2.16 Forest Service Inventoried Roadless Areas

Environmental Consequences of the Proposed Action:

In the vicinity of the inventoried roadless areas, the Proposed Action calls for the pipeline to be adjacent to, or under the Sunnyside Road. The current roadless characteristics would not be altered.

Mitigation:

Any potential impacts to these characteristics would be mitigated through project design criteria including erosion control, timing limitations, re-vegetation, etc.

Environmental Consequences/Mitigation of the No Action Alternative:

Under the No Action Alternative, the Proposed Action would not be constructed and associated impacts would not occur.

Environmental Consequences/Mitigation of Alternative A:

Impacts and mitigation would be the same as the Proposed Action.

Environmental Consequences/Mitigation of Alternative B:

Impacts and mitigation would be the same as the Proposed Action.

CHAPTER FIVE
CUMULATIVE IMPACTS

Early historic changes to the region's natural condition were minor. Until relatively recently, modifications of the region's natural condition have been characteristic of agricultural and ranching lands with localized industrial impacts associated with the railroad and I-70 highway corridors and the Anvil Points mine. More recently, these changes are cumulative with the accelerated growth of residential and commercial uses, utility corridors, oil and gas developments and other rural industrial uses. Oil and gas developments in particular have increased. These increasing activity levels have accelerated the accumulation of impacts. The existing conditions reflect the impacts from these past actions. These impacts have included: 1) direct habitat losses; 2) habitat fragmentation and losses in habitat effectiveness; 3) elevated potential for runoff, erosion and sedimentation; 4) expansion of noxious weeds and other invasive species; 5) increased noise and traffic; and 6) reductions in the scenic quality of the area. This is especially apparent in the northern portion of the project area along the I-70 corridor. Cumulative impacts of increased development, access, construction, operation and maintenance may also adversely impact cultural and Native American sites. The result could possibly degrade the cultural significance by either destroying the sensitive area or its landscape setting. Impacts to the auditory and visual environment may be of importance in considering values placed on some sites by Native American tribes, thus impacting them. The accumulation of impacts in the southern portion of the project area has been substantially less, but is still noticeable.

Present actions occurring on and near the project area include oil and gas operations in the Orchard Geographical Area Plan I. The effects of this development were addressed in CO140-2005-113EA (BLM 2005). For the purposes of this analysis, all past activities within the project area were considered as part of the existing condition and will not be addressed separately in the cumulative impact analysis.

Reasonably foreseeable actions include proposed development under the Orchard II Master Development Plan (MDP). NEPA analysis is currently being conducted on this proposal by the BLM Glenwood Springs Energy Office and in conjunction with the Grand Junction Field Office. In summary, the Orchard II MDP proposes the drilling of 93 wells from 24 well pads over approximately the next three years. As proposed there would be approximately five miles of new access, three miles of improved access and 15 miles of gathering line. Short term disturbance is estimated to be 236 acres and long term disturbance is estimated to be 67 acres. A more complete description of the MDP can be accessed at www.blm.gov/co/st/en/fo/gsfo/GSFO_MasterPlansOfDevelopment.html. There is no interdependency between the Collbran Pipeline Project and the Orchard II MDP. Either project could proceed with or without the approval of the other. Effects of the Orchard II MDP can not be prevented or modified by BLM decision making on the Proposed Action. Internal environmental analysis is in progress and the potential affects of the Orchard II MDP are considered in this cumulative analysis.

This proposal is part of EnCana's Piceance Basin Strategy. The goal of the strategy is to maximize processing technology and minimize the number of processing facilities, land disturbance and other associated impacts from construction by delivering unprocessed natural

gas to a central processing facility. This proposed pipeline has been sized to accommodate production from the Orchard Geographical Area Plan I and the Orchard II Master Development Plan. It is also sized to provide other producers in the Collbran/Plateau Valley area the opportunity to transport their gas to a central processing facility.

The primary reasons for this assessment are twofold: 1) the rate of development, particularly oil and gas development, is increasing in the area and resulting in an accelerated accumulation of individually nominal effects and 2) the majority of residential and commercial expansion, as well as oil and gas development, has occurred and is likely to continue to occur on private holdings where mitigation measures designed to protect and conserve resources may not be in effect. While none of the cumulative impacts are characterized as significant and while new technologies and regulatory requirements have reduced the impacts of some land uses, it is nonetheless clear that past, present and reasonably foreseeable future actions has had and would continue to have adverse effects on various elements of the environment. The anticipated impact levels for existing and future actions range from negligible to locally major and primarily negative for specific resources. Impacts would be of the same nature as those described above.

It is clear that the Proposed Action or Alternatives A or Alternative B would contribute to the collective impact. Additional ground disturbance would occur, additional habitat altered and fragmented, and noise and traffic would increase, at least in the short-term. There is also concern that even though this proposed pipeline has been designed to accommodate future production, additional pipelines could be proposed in the future. The impacts would be additive and would move the cumulative impact closer to a threshold of significance for some resources. However, the contribution to the accumulated effects would be minor for this project because the Proposed Action and Alternatives follow existing road and previous utility ROW disturbance for much of its route, and the mitigation measures represented by the Special and Standard Stipulations for resource protection are mandated for implementation.

CHAPTER SIX
TRIBES, INDIVIDUALS, ORGANIZATIONS OR AGENCIES CONSULTED

Brenda Linster, EnCana Oil & Gas (USA), Inc.
Preston Nelson, EnCana Oil & Gas (USA), Inc.
Ute Indian Tribe of the Uintah and Ouray Reservation
Southern Ute Indian Tribe
Ute Mountain Ute Indian Tribe
State Historic Preservation Officer
United States Department of the Interior, Bureau of Reclamation
JT Romatzke Colorado Division of Wildlife
U.S. Fish and Wildlife Service
Darren Knight, Trenchless
Edge Environmental, Inc.

CHAPTER 7
INTERDISCIPLINARY REVIEW

GJFO BLM Oversight		
Name	**Title**	**Area of Responsibility**
Christina Stark	Natural Resource Specialist	Project Lead, Land Use Authorizations, NEPA review, VRM, Soils
Julia Christiansen	Natural Resource Specialist	Oil and Gas Permitting/ Orchard Gap Project Lead
Aline LaFarge	Archaeologist	Cultural Resources, Native American Religious Concerns
David Lehmann	Lands and Minerals Supervisor	NEPA review
Jim Cooper	Travel Management Specialist	Access & Transportation, Recreation
Ken Straley	Recreation Supervisor	Wilderness, ACECs
Jim Dollerschell	Range Management Specialist	Range, Wild Horse & Burro Act
Scott Gerwe	Geologist	Geology, Paleontology
Alan Kraus	Hazard Materials Specialist	Hazardous Materials
Heidi Plank	Wildlife Biologist	Migratory Bird Treaty Act, T&E Species, Wildlife-Terrestrial and Aquatic
Anna Lincoln	Ecologist	Range, Land Health Assessment, T&E Plant Species
Bob Fowler	Range Management Specialist	Vegetation, Range, Riparian, Floodplains, Forestry
Matt Anderson	Environmental Coordinator	Air Quality, Environmental Justice, Prime & Unique Farmlands, Environmental Coordinator
Janny Choy	Hydrologist	Water Quality, Hydrology, Water Rights
Mark Taber	Range Management Specialist	Invasive Non-Native Species (Weeds)
Angie Foster and Doug Paul	Fire Ecologist	Fire and Fuels

GSEO BLM Oversight		
Name	**Title**	**Area of Responsibility**
D. J. Beaupeurt	Realty Specialist	Realty Authorizations
Mark Ennes	Planning and Environmental Coordinator	NEPA compliance
Jeff O'Connell	Hydrologist	Air Quality, Water Quality, Surface and Ground Hydrology and Water Rights, Soils, Geology
Beth Brenneman	Ecologist	Vegetation, Special Status Species (plants), Invasive Non-native species
Cheryl Harrison	Archeologist	Cultural Resources, Native American Religious Concerns
Isaac Pitman	Rangeland Management Specialist	Rangeland Management

Jeff Cook	Wildlife Biologist	Migratory Birds, Threatened, Endangered and Sensitive Animal Species, Terrestrial and Aquatic Wildlife
Kay Hopkins	Outdoor Recreation Planner	Wilderness, ACEC's, Recreation
Kate Schwarzler (OTAK)	Landscape Architect	Visual Resources
Collin Ewing	Botanist	T&E Plants
Forest Service Oversight		
Name	**Title**	**Area of Responsibility**
Connie Clementson	District Ranger	NEPA review
Mike Herth	District Ranger	NEPA review
Linda Bledsoe	Realty Specialist	Project Liaison, Coordination, NEPA review
Julie Sarazin Grode	Wildlife Biologist	Vegetation, Wildlife, T&E Species, MIS
WestWater Engineering, Inc. Third Party Contractor		
Name	**Title**	**Area of Responsibility**
Jerry Jones	Environmental Scientist EA Coordinator	Project Coordinator; Water Quality, Surface and Ground; Geology and Minerals; Paleontological Resources; Recreation; Access and Transportation; Realty Authorizations; Areas of Critical Environmental Concern; Wastes, Hazardous or Solid; Wilderness; Socioeconomics; Rangeland Management.
Van Graham Doug McVean	Wildlife Biologist	Migratory Birds; Threatened, Endangered and Sensitive Animal Species; Wildlife, Terrestrial and Aquatic; Threatened and Endangered Plant Species; Invasive, Non-Native Species; Wetlands and Riparian Zones; Vegetation.
Carl Conner, Grand River Institute.	Archaeologist	Cultural Resources
Mary Nichols	Technical Reviewer	
Mike Klish	Technical Reviewer	

CHAPTER EIGHT
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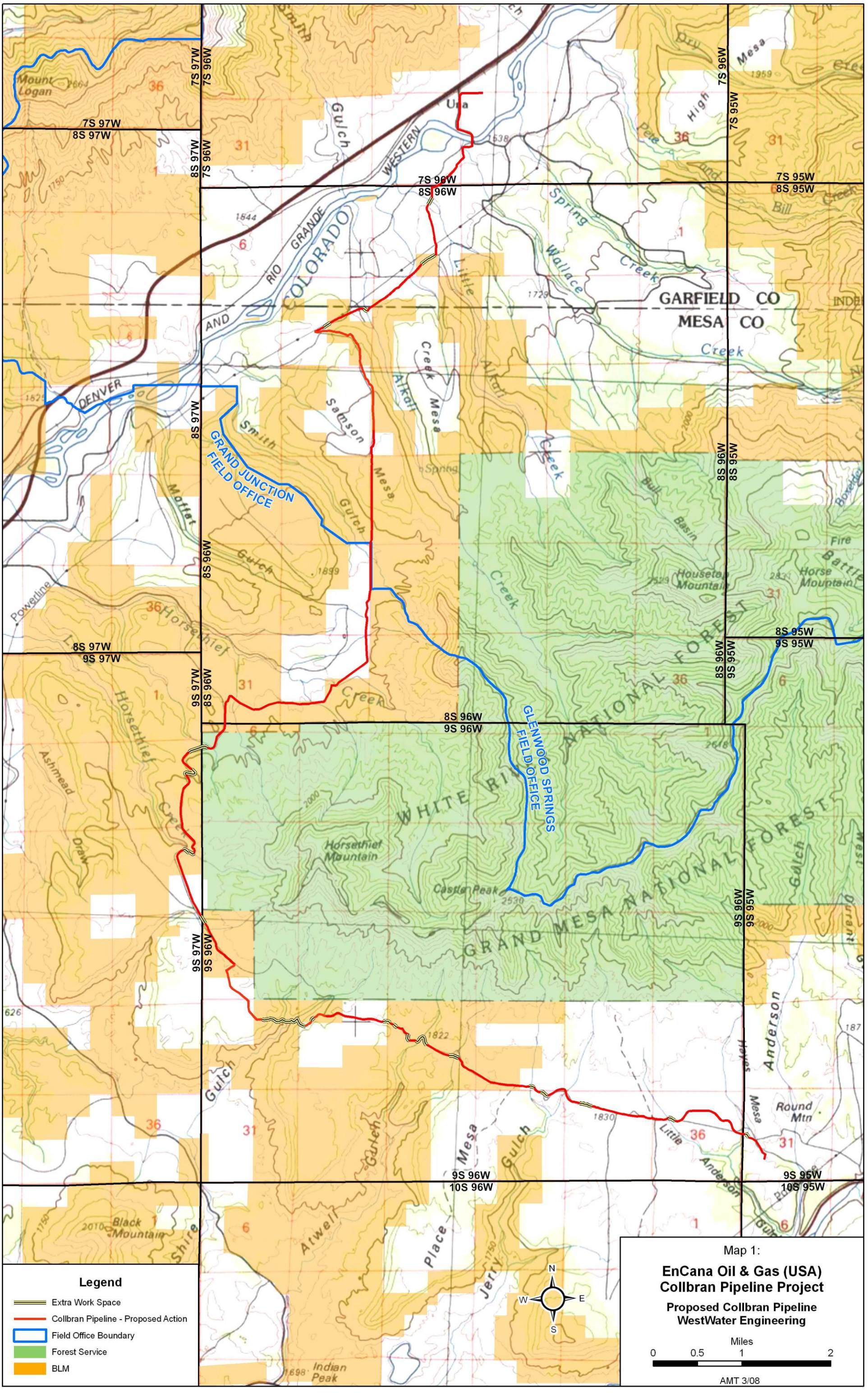
APPENDIX 1

MAPS OF THE PROPOSED ACTION AND ALTERNATIVES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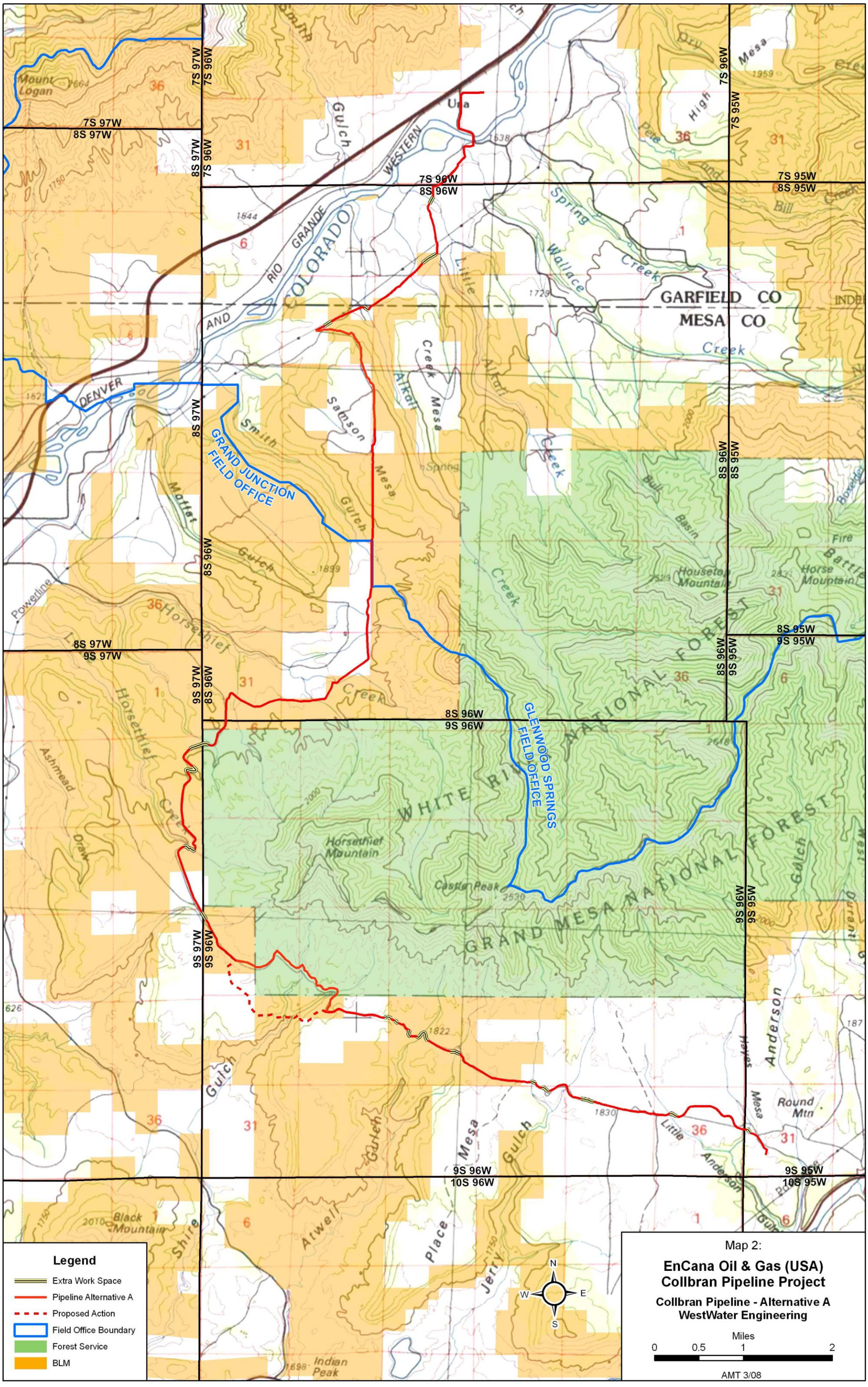
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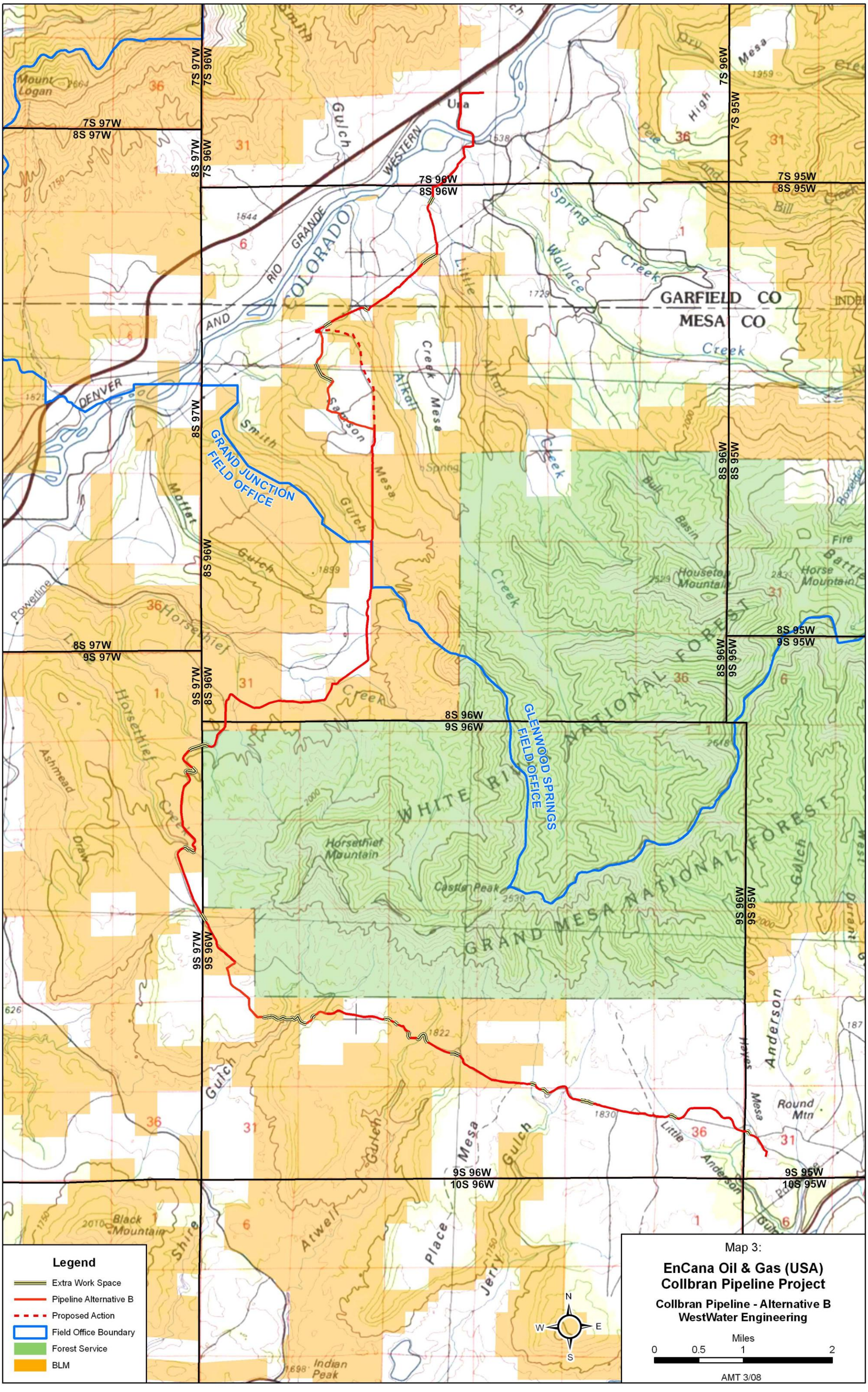
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APPENDIX 2

DESIGN FEATURES / DESIGN CRITERIA

Extracted from Plan of Development for ROW Application COC-72189
and
EnCana Letter Dated June 12, 2008

POD Design Features—by Resource

(*Note: Some measures may be repeated due to their applicability to more than one resource.)*

Air Quality

1. EnCana would obtain permits for regulated air pollution sources through the CDPHE APCD to ensure compliance with all federal and state air quality standards, and would comply with all county and state permit conditions and stipulations.
2. Maintain and tune equipment to manufacturers' specifications.
3. Transport the majority of workers from contractor yards to the construction site in buses provided by the contractor.
4. Limit opacity of fugitive dust to 20 percent or less.
5. Apply water and/or an approved dust suppressant on unpaved roads and construction workspaces.
6. Clean soil tracked onto paved roads more than 50 feet from the point of origin within one hour of discovery and clean soil tracked less than 50 feet from the point of origin by the end of the working day.
7. Cease construction operations when wind speeds exceed 30 miles per hour (mph).
8. Limit vehicle speed to 15 mph on the right-of-way and to posted speed limits on roads.

Cultural Resources

9. Inform all persons associated with the project that they would be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts.
10. If historic or archaeological materials are uncovered during any project or construction activities, activities would stop in the immediate area of the find. All earth disturbing activities within 100 feet would cease and the area would be secured until notified to proceed by the Bureau of Land Management (BLM) Authorized Officer. The BLM Authorized Officer would be immediately contacted. Within five working days, the BLM Authorized Officer would inform EnCana as to:
    a. whether the materials appear eligible for the NRHP,
    b. the mitigation measures EnCana would likely have to undertake before the site can be used (assuming in situ preservation is not practicable), and
    c. a timeframe for the BLM Authorized Officer to complete an expedited review under 36 CFR 800.11 to confirm, through the SHPO, that the findings of the BLM Authorized Officer were correct and that mitigation was appropriate.
        i. Notify the BLM Authorized Officer by telephone and with written confirmation, immediately upon discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Activities would stop in the immediate area of the find, and the discovery would be protected for 30 days or until notified to proceed in writing by the BLM Authorized Officer.

Farmlands, Prime and Unique

11. Segregate up to 12 inches of topsoil (in irrigated agricultural lands) from the entire construction workspace and temporary use areas, unless requested otherwise by the fee-landowner, to prevent mixing of topsoil and subsoil layers.
12. Stockpile topsoil separately from subsoil.
13. Compact the pipeline trench during backfill activities to prevent subsidence.
14. Rip or plow compacted subsoil at least 6 to 10 inches deep before replacing segregated topsoil across the right-of-way.
15. Return topsoil to pre-construction depths and locations.
16. Remove rocks from the top 12 inches of soil and make diligent efforts to remove stones greater than 4 inches in any dimension if the off-right-of-way areas do not contain stones greater than 4 inches in any dimension.

Floodplains

17. Cross drainages perpendicular to the stream channel, where topographic conditions allowed.

Invasive, Non Native Species

18. Conduct pre-construction field surveys in the spring prior to construction to identify existing noxious weed infestations within the project area.
19. Consult with BLM and local weed agencies to determine pre-treatment for noxious weed infestations identified during spring surveys.
20. Require vehicles and equipment to arrive at the work site clean, power-washed, and free of soil and vegetative debris capable of transporting weed seeds or other propagules.
21. Install wash stations at designated infestation areas. Equipment would be power-washed to remove soil and propagules prior to leaving the infested areas. Wash station locations would be determined in conjunction with the BLM and local weed agencies after spring surveys have been completed.
22. Use certified weed-free erosion control and reclamation materials (i.e., straw bales and seed mixes).
23. Monitor the distribution and density of noxious weeds on the right-of-way, and control and/or eradicate any new or expanded population for the life of the pipeline.

Migratory Birds

24. Conduct pre-construction migratory bird surveys each spring prior to construction to identify active nests within the project area. BLM-approved biologists would be required to meet with BLM biologists prior to initiating surveys, and would conduct the surveys using BLM survey protocols.
25. Develop nest avoidance, timing restrictions, and/or additional mitigation measures for nests located on or adjacent to the right-of-way. The FWS would be consulted with if any special status species nests were discovered on or adjacent to the right-of-way.

Threatened, Endangered, and Sensitive Wildlife Species

26. Conduct pre-construction surveys, each spring prior to construction, to identify active goshawk nests present near or adjacent to the construction right-of-way. BLM-approved biologists would be required to meet with BLM biologists prior to initiating surveys, and would conduct the surveys using BLM survey protocols. Construction activities would not occur within 0.5-miles of active goshawk nests between February 1st and August 15th in Colorado or until fledgling and dispersal of the young.

Threatened, Endangered, and Sensitive Plant Species

27. Conduct field surveys during the appropriate survey windows prior to construction to determine the presence or absence of special status plant species.
28. Consult the BLM to determine measures for BLM sensitive species and consult with the BLM and FWS to determine measures for federal listed threatened, endangered, or candidate species are found during field surveys.
29. Incorporate the following measures:

    Federally Listed Plants

    a. Avoid plants that occur along the outside edge of the right-of-way and install exclusion fencing to prevent disturbance from construction activities.
    b. Evaluate the potential for route realignment or change to the right-of-way configuration (e.g., reducing the width of the right-of-way) in areas where plants occur within or across the right-of-way.

    BLM Sensitive Plants

    c. Avoid plants that occur along the outside edge of the right-of-way and install exclusion fencing to prevent disturbance from construction activities.
    d. Evaluate the potential for route realignment or change to the right-of-way configuration (e.g., reducing the width of the right-of-way) in areas where plants occur within or across the right-of-way.
    e. Conduct source population surveys in areas where plants could not be avoided (i.e., within or across the right-of-way) to determine the magnitude of impact on the entire population.
    f. Consider the effectiveness of relocating or transplanting individual plants or collecting seed from mature plants to be replanted following construction.

Wastes, Solid and Hazardous

30. Maintain the project area in a sanitary condition at all times.
31. Provide an adequate number of trash containers on-site.
32. Dispose trash and nonflammable wastes at an appropriate waste disposal site.
33. Provide portable toilets on-site. Contents would be removed and disposed of in accordance with applicable laws and regulations.
34. Use, store, transport, and/or dispose of hazardous materials in accordance with applicable federal and state laws.

35. Implement spill prevention measures, inspection and training requirements, and spill response and notification procedures to minimize the potential for accidental spills or leaks.

Water Quality, Surface and Ground

36. Install temporary equipment bridges across flowing waterbodies.
37. Place topsoil and spoil at least 10 feet away from the waters edge.
38. Bury the pipeline at least 5 feet below the bottom of each drainage.
39. Cross streams during periods of low flow and complete the crossing within 24 hours, as feasible.
40. Install erosion and sediment control measures to prevent the flow of spoil into any waterbodies.
41. Maintain erosion and sediment control measures until streambanks and adjacent upland areas are stabilized.
42. Reestablish pre-construction bed and bank contours, revegetate streambanks, and install erosion control fabric to stabilize the streambanks.
43. Direct trench-dewatering discharges onto a well-vegetated, stable surface and utilize a section of geotextile fabric or plywood to prevent scouring during discharge.
44. Locate trench-dewatering discharges as far as practicable from waterbodies and wetlands (considering local topography, vegetation, and soils).
45. Minimize duration of trench dewatering discharges by scheduling dewatering operations immediately prior to lowering in, tie-ins, or backfilling. Minimize trench disturbance (i.e., additional digging) to the extent practicable until the majority of the water is pumped out.
46. Prohibit storage of hazardous materials, chemicals, fuels, lubricating oils, and concrete coating and refueling activities within 200 feet of any waterbody or wetland.
47. Withdraw and discharge hydrostatic test water in accordance with all applicable permits.
48. Test water quality during withdrawal and discharge in accordance with permit stipulations and conditions.
49. Utilize screens on the intake hoses at surface water sources to prevent the entrapment of fish or other aquatic species and monitor the appropriation rate to ensure that adequate downstream flow is maintained to support aquatic life.
50. Install energy-dissipating devices and/or filter bags to prevent scour, erosion, suspension of sediment, and damage to vegetation. Monitor discharge rates to ensure effectiveness of the energy-dissipating device.

Wetlands and Riparian Zones; and Wildlife, Aquatic

51. Install temporary equipment bridges across flowing water bodies.
52. Place topsoil and spoil at least 10 feet away from the waters edge.
53. Bury the pipeline at least 5 feet below the bottom of each drainage.
54. Cross streams during periods of low flow and complete the crossing within 24 hours, as feasible.

55. Install erosion and sediment control measures to prevent the flow of spoil into any water bodies.
56. Maintain erosion and sediment control measures until streambanks and adjacent upland areas are stabilized.
57. Reestablish pre-construction bed and bank contours, revegetate streambanks, and install erosion control fabric to stabilize the streambanks.
58. Direct trench-dewatering discharges onto a well-vegetated, stable surface and utilize a section of geotextile fabric or plywood to prevent scouring during discharge.
59. Locate trench-dewatering discharges as far as practicable from water bodies and wetlands (considering local topography, vegetation, and soils).
60. Minimize duration of trench dewatering discharges by scheduling dewatering operations immediately prior to lowering in, tie-ins, or backfilling. Minimize trench disturbance (i.e., additional digging) to the extent practicable until the majority of the water is pumped out.
61. Prohibit storage of hazardous materials, chemicals, fuels, lubricating oils, and concrete coating and refueling activities within 200 feet of any waterbody or wetland.
62. Withdraw and discharge hydrostatic test water in accordance with all applicable permits.
63. Test water quality during withdrawal and discharge in accordance with permit stipulations and conditions.
64. Utilize screens on the intake hoses at surface water sources to prevent the entrapment of fish or other aquatic species and monitor the appropriation rate to ensure that adequate downstream flow is maintained to support aquatic life.
65. Install energy-dissipating devices and/or filter bags to prevent scour, erosion, suspension of sediment, and damage to vegetation. Monitor discharge rates to ensure effectiveness of the energy-dissipating device.

Soils

66. Limit clearing and vegetation removal to the extent practical to provide for safe construction.
67. Salvage topsoil as required by the BLM, U.S. Forest Service (USFS) and fee-landowners:
    - BLM-administered lands—up to 6 inches across the trenchline and working side
    - Fee-lands—unless otherwise directed by the fee-landowner, up to 6 inches across the trenchline, except irrigated agricultural fields where up to 12 inches would be stripped across the entire right-of-way
    - All areas requiring grading—up to 6 inches across the entire right-of-way
68. Stockpile topsoil separately from subsoil to prevent mixing of soil layers.
69. Decompact subsoil to a depth of 6 to 10 inches prior to topsoil replacement. In areas where topsoil was not salvaged, compacted areas would be decompacted as necessary.
70. Restore pre-construction contours and natural drainage patterns.
71. Return topsoil to pre-construction depths and locations.

72. Install temporary and permanent erosion control measures (i.e., silt fence, straw bales, waterbars, driveable berms) to control the erosion and transport of sediment.
73. Use vegetative mulch and excess rock to reduce erosion potential by providing additional surface relief structure.
    - Layer rock on the surface of erodible soils in critical areas to reduce erosion and restore appearance of native surface.
    - On BLM-administered lands and where approved by fee-landowners, randomly distribute any windrowed trees, shrubs, or remaining vegetative debris.

Vegetation

74. Minimize vegetation removal to the extent necessary to allow for safe and efficient construction activities.
75. Cut trees with a chain saw and/or mechanical shears and cut brush with a hydraxe or similar equipment as close to the ground as possible.
76. Leave stumps and root balls in place except over the trenchline, areas requiring topsoiling, or as necessary to create a safe and level workspace. Fell trees inside the approved right-of-way boundaries.
77. Shred or chip brush and salvage with topsoil (unless specified otherwise by fee-landowner).
78. Salvage and replace topsoil, as discussed in the Soils section, to preserve and replace existing seed banks and return organic matter needed for seed establishment to the soil.
79. Restore pre-construction contours, drainage patterns, and topsoil.
80. Prepare a seedbed (scarifying, tilling, harrowing, or roughening) prior to seeding where needed to improve revegetation potential.

    Seed disturbed areas with the goals of replacing suitable wildlife habitat and browse and providing a vegetative cover that stabilizes soils to control erosion and sedimentation. Typical seed mixes would reflect environmental conditions and ecological range sites along the project route and emphasize the use of native species.
81. Use certified weed-free seed purchased from and blended by qualified producers and dealers.
82. Employ drill or broadcast seed methods to ensure proper seed placement. Drill seeding is preferred and would be used wherever soil characteristics and slope allow effective operation of a rangeland seed drill. Drill seeding would be performed perpendicular to the slope. Seed would be placed in direct contact with the soil at an average depth of 0.5-inches, covered with soil, and firmed to eliminate air pockets around the seeds. Broadcast seeding would be employed only in areas where drill seeding is unsafe or physically impossible. Seed would be applied uniformly over disturbed areas with manually operated cyclone-bucket spreaders, mechanical spreaders, or blowers. Broadcast application rates would be twice that of drill rates. The seed would be uniformly raked, chained, dragged, or cultipacked to incorporate seed to a sufficient seeding depth.
83. Complete drill and/or broadcast seeding prior to redistribution of woody material.

Wildlife, Terrestrial

84. Install wildlife crossovers (trench plugs), with ramps on either side of the open trench, at maximum 1-mile intervals and at well-defined livestock and wildlife trails to facilitate passage of big game across the right-of-way and to prevent wildlife from becoming trapped in the trench.
85. Conduct pre-construction nesting raptor surveys each spring prior to construction. BLM-approved biologists would be required to meet with BLM biologists prior to initiating surveys and would conduct the surveys using BLM survey protocols.
86. Surveys would be conducted in suitable nesting habitat (mature pinyon-juniper woodland) for all accipiter species in Colorado. In areas where the proposed pipeline corridor parallels existing disturbance, surveys will be conducted 300 feet from the edge of the right-of-way. In areas where the proposed right-of-way does not parallel an existing disturbance (i.e., a deviation), surveys would be conducted within 2000 feet from the edge of the right-of-way for the portion of pinyon-juniper habitat being dislocated from the stand by the pipeline corridor and 300 feet from the edge of the right-of-way for the stand portion of the habitat. Surveys would be completed when the birds are either on eggs or when chicks are present. Construction activities would be prohibited within 0.25-miles of active nests between April 15th and August 15th in Colorado, or until fledging and dispersal of the young.
87. Surveys would be conducted in suitable nesting habitats within 1-mile of the proposed project for cliff nesting species in Colorado. Construction activities would be prohibited within 0.25-miles of active nests between February 1st and August 15th in Colorado, or until fledging and dispersal of the young.
88. Prohibit construction activities in severe/critical mule deer and elk winter range in Colorado between December 1st and April 30th.

Access and Transportation

89. Begin and end construction activities after the average workday, as practical, to minimize traffic congestion impacts to the public.
90. Use the construction yards as the primary parking area for personal vehicles. Transport the majority of pipeline construction workers to the construction right-of-way by buses provided by the contractor.
91. Install pipelines across county roads in accordance with Garfield County and Mesa County road crossing permits. County roads would be bored if paved and open-cut if unsurfaced, pending approval by county road engineers. Private roads would be crossed by the open-cut method.
92. Comply with county and state weight restrictions and limitations.
93. Control dust along unsurfaced access roads and minimize tracking of soil onto paved roads.
94. Maintain unsurfaced roads during construction of the project.
95. Restore unsurfaced roads to equal or better condition than pre-construction levels after construction is complete.
96. Repair damage on paved roads at pipeline crossings.

97. Develop measures to control unauthorized OHV use with the BLM and interested fee-landowners. Measures would include leaving the right-of-way in a roughened state and scattering vegetative debris across the surface, placing dirt berms, rock, or vegetative barriers at intersections with existing roads, and randomly placing boulders, logs, and stumps across the right-of-way to discourage OHV use.

Fire Management

98. Equip construction equipment operating with internal combustion engines with approved spark arresters.

99. Carry fire-fighting equipment (long-handled round-point shovel and dry chemical fire extinguisher) on motor vehicles and equipment.

100. Take immediate action to suppress accidental fires.

101. Create defensible space around any aboveground appurtenances in accordance with Colorado Firewise guidelines (www.firewise.com).

Forestry Management

Geology and Minerals

102. Minimize effects of blasting and ensure public safety during blasting operations.

103. Restore pre-construction contours and natural runoff and drainage patterns after construction activities are complete.

Noise

104. Muffle all vehicles and construction equipment.

105. Limit construction activities to daylight hours as much as possible to avoid impacts to the public.

Paleontology

106. Monitor Condition I areas and spot-check Condition II areas during construction.

107. Inform all persons associated with the project that they would be subject to prosecution for knowingly disturbing paleontological sites, or for collecting fossils. If fossils are uncovered during any project or construction activities, activities would stop in the immediate area of the find that might further disturb such materials, and the BLM Authorized Officer would be immediately contacted. A BLM-approved paleontologist would evaluate the find and determine site-specific recommendations and mitigation requirements. The discovery would be protected until notified to proceed, in writing, by the BLM Authorized Officer.

108. Install temporary and permanent erosion control measures, as discussed in the Soils section, to control erosion and sediment transport.

Rangeland Management

109. Brace and secure each fence crossed before cutting the opening needed for construction to prevent slacking of the wire. The opening would be closed by temporary gates as necessary or as requested by the fee-landowner to prevent passage of livestock. Fences would be braced and secured in accordance with BLM specifications.

110. Install temporary fencing as required by pre-construction agreements with fee-landowners to prevent livestock entry into the construction right-of-way.

111. Install livestock crossovers (trench plugs), with ramps on either side of the open trench, at maximum 1-mile intervals and at well-defined livestock and wildlife trails to facilitate passage of livestock across the right-of-way and to prevent livestock from becoming trapped in the trench.

112. Maintain the current condition and usability of stock ponds and other facilities along the right-of-way.

113. Restore damaged livestock fences, gates, cattle guards, and brace panels to BLM or fee-landowners specifications. BLM specifications are included in the Plan of Development. EnCana would be responsible for all damages that occur because of negligence in maintaining the integrity of allotment and pasture boundary fences.

Realty Authorizations

114. Utilize the "One Call" system to locate and stake the centerline and limits of all underground facilities in the area of proposed excavation.

115. Provide 48-hour notification to the owner/operator of and foreign pipeline prior to performing any work within 10 feet of buried or aboveground-pressurized gas piping.

116. Prohibit machine excavation within 5 feet from any existing pipeline encountered in the right-of-way unless authorized by the pipeline owners/operators.

Socioeconomics

Visual Resources

117. Restore the right-of-way to as near as possible original contours and restore natural drainage and runoff patterns.

118. Scatter salvaged vegetative debris randomly across the right-of-way.

119. Restore the appearance of naturally rocky slopes and areas that have a natural gravel, cobble, or boulder veneer on the surface by layering or scattering rock across the right-of-way.

120. Paint all aboveground facilities Munsell Soil Chart Juniper Green.

Design Features included in EnCana letter dated June 12, 2008

- Install wildlife crossovers (trench plugs), with ramps on either side of the open trench, at maximum 1 mile intervals and at well defined livestock and wildlife trails to facilitate passage of big game across the right-of-way and to prevent wildlife from being trapped in the trench.
- Complete construction (pipe installation, backfill and rough grading) in major migration corridors, as identified by the BLM and CDOW, to allow wildlife unimpeded access across the construction workspace.
- Transport the majority of construction workers to the construction site via mass transit (i.e., buses or vans provided by the contractor or carpooling) to minimize vehicle traffic.

FINDING OF NO SIGNIFICANT IMPACT
FOR
COLLBRAN PIPELINE PROJECT
DOI-BLM-CO-130-2009-027 EA
BLM Grand Junction Field Office

The Environmental Assessment and analysis of the direct, indirect, and cumulative effects of the proposed buried 24 inch low pressure natural gas pipeline has been reviewed. BLM believes that implementation of Alternative B and the proposed mitigation and agency identified protective measures described in the EA result in a Finding of No Significant Impact on the human environment. Therefore, an environmental impact statement is not necessary to further analyze the environmental effects of Alternative B.

Context

The Collbran Pipeline is a linear disturbance feature involving approximately 21.9 miles of pipeline construction across BLM and Forest Service administered public land and private land that does not in and of itself have international, national, regional, or state-wide importance. EnCana has submitted a Plan of Development for construction, reclamation, maintenance, and operation of the pipeline.

Intensity

Impacts were determined to be minimal and short-term (less than 5 years) in nature to non-existent beyond background levels for some resources. In other cases, there was some measurable impact anticipated for resources, it is necessary to consider the intensity of the impact when determining significance. The BLM NEPA Handbook H-1790-1 (revised January 2008) states that CEQ regulations include the following Ten Significance Criteria described in 40 CFR 1508.27 for evaluating intensity:

1. **Impacts that may be both beneficial and adverse.**
   Alternative B would impact resources as described in the EA. Protective/mitigation measures to reduce impacts to these resources were also provided in the EA. None of the environmental effects described in the EA are considered significant. There would be no significant environmental effect for the following resources as discussed in the EA: Environmental Justice, Wild and Scenic Rivers, Wilderness Areas, Native American Religious Concerns, Farmlands – Prime/Unique, and Areas of Critical Environmental Concern. Potential adverse impacts were identified for the following resources: Air Quality, Noise, Land Use and Residential Areas, Transportation, Recreation, Visual Resources, Cultural and Historic Properties, Geologic Resources, Paleontologic Resources, Surface Water, Groundwater, Wetlands, Riparian Areas, and Floodplains, Soil Resources, Vegetation Resources, Invasive Species and Noxious Weeds, Grazing Resources, Threatened, Endangered and Special Status Species, Wildlife and Aquatic Resources, and Human Health. The potential effects to these resources are either considered minimal, short-term, or temporary resulting in no significant impact or have been mitigated to a non-significance level.

Beneficial impacts may result from increased work for workforce, increased production capacity of natural gas, and off-site wildlife mitigation described in the EA.

2. **Public health and safety.**
Public health and safety concerns have been evaluated directly under "Human Health" and indirectly under "Air Quality". Impact to public health is expected to be minimal and therefore not significant based on the protective measures described in the EA.

3. **Unique characteristics of the geographic area.**
Cultural and historic resources are considered to be unique characteristics of the geographic area; however, direct impact to these resources as a result of the Alternative B would be mitigated. Indirect impacts to these resources would be mitigated through protective measures described in the EA resulting in no significant impact. Other unique characteristics of a geographic area may include wild and scenic rivers, wilderness areas, Native American religious concerns, prime and unique farmlands and areas of critical environmental concern. None of these exist in the Collbran Pipeline Project Area and therefore, there is no effect to these resources.

4. **Degree to which effects are likely to be highly controversial.**
There has been expression of opposition to segments of Alternative B by a few groups, and support of Alternative A in public comments during the public scoping process.

5. **Degree to which effects are highly uncertain or involve unique or unknown risks.**
Effects described in the EA are not identified as unique, unknown, or highly uncertain. Pipeline construction has occurred previously in the project area and this knowledge allows for anticipation of effects with a high degree of certainty.

6. **Consideration of whether the action may establish a precedent for future actions with significant impacts.**
Alternative B does not establish a precedent for future BLM actions with significant effects. All future actions would require further NEPA analysis.

7. **Consideration of whether the action is related to other actions with cumulatively significant impacts – which include connected actions regardless of land ownership.**
No individual or cumulative significant impacts were identified for Alternative B. Cumulative effects are identified in Chapter 5 of the EA.

8. **The degree to which the action may adversely affect districts, sites, highways, structures, or other objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.**
The project will not adversely affect districts, sites, highways, structures, or other objects listed in or eligible for listing in the National Register of Historic Places, nor will it cause loss or destruction of significant scientific, cultural, or historical resources. A Class I information review and Class III pedestrian survey of the Area of Potential Affect was conducted. Protective/mitigation measures as described in the EA would apply to any newly discovered cultural resources.

and Class III pedestrian survey of the Area of Potential Affect was conducted. Protective/mitigation measures as described in the EA would apply to any newly discovered cultural resources.

9. **The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973, or the degree to which the action may adversely affect: 1) a proposed to be listed endangered or threatened species or its habitat, or 2) a species on BLM's sensitive species list.**
   Proposed mitigation and prevention measures have been designed to protect a federally listed species and a proposed to be listed species. Proposed mitigation and monitoring measures will substantially reduce the potential for impact to these species during construction, and will provide the agency with valuable information for future decisions and management.

10. **Any effects that threaten a violation of Federal, State, or local law or requirements imposed for the protection of the environment.**
    The project does not violate any known federal, state, local or tribal law or requirement imposed for the protection of the environment.

SIGNATURE OF AUTHORIZED OFFICIAL: _____
GRAND JUNCTION, Field Manager

DATE SIGNED: 12/19/08