

Record of Decision

Quitcupah Creek Road

Lead Agency:

United States Department of Agriculture
Forest Service
Fishlake National Forest
Richfield Ranger District
Richfield, Utah

Cooperating Agency:

United States Department of the Interior
Bureau of Land Management
Richfield Field Office
Richfield, Utah

March 2006

Introduction

A Draft and Final Environmental Impact Statement (EIS's) for the Quitchupah Creek Road Project have been prepared pursuant to the requirements of the National Environmental Policy Act (NEPA, 40 CFR 1500-1508), the National Forest Management Act (NFMA, 36 CFR 219), and the Fishlake National Forest Land and Resource Management Plan and amendments (Forest Plan). The Final EIS documents the analysis of four alternatives, including the "No Action" alternative and three action alternatives designed to meet the purpose and need for the project.

Background

In 1998, Sevier County Special Services District Number 1 (SSD) submitted formal right-of-way applications to the US Forest Service (USFS) and the Bureau of Land Management (BLM) for the construction of the Quitchupah Creek Road, to be used and indirectly funded by the Southern Utah Fuel Company Mine (SUFCO Mine). SSD proposed the upgrade and realignment of an existing 9.15 mile road, along Quitchupah Creek, which connects the Acord Lakes Road (Sevier County Road #010) in Convulsion Canyon, Sevier County with SR-10 in Emery County. The land ownership in this corridor is a combination of private, USFS, BLM, and State Institutional Trust Lands Administration (SITLA). The proposal had the potential to result in significant effects to the environment. As a result, the Quitchupah Creek Road FEIS was prepared. Four Alternatives were analyzed in detail; three action Alternatives and the No Action Alternative. The FEIS is a joint document between the United States Forest Service (USFS), Fishlake National Forest (Lead Agency) and the Bureau of Land Management (BLM), Richfield Field Office (Cooperating Agency). The Forest Supervisor for the Fishlake National Forest and the Richfield Field Office Manager for the BLM are the responsible officials for the EIS. The BLM Richfield Field Office will issue their own Record of Decision (ROD) and authorizations for those portions of the Quitchupah Creek Road that are located on public lands administered by the BLM.

Purpose and Need for the Project

The purpose of the project is to evaluate the potential environmental, social, and economic consequences of granting a right-of-way to construct a public road across Federal and other lands. The need for the proposed Federal action is to respond to a request from Sevier County SSD for granting a right-of-way to construct a public road.

Another need for the road project is to ensure the competitive productivity of the SUFCO Mine, as a source of economic stability for Sevier County, a potential source of additional income and revenue for Emery County, and a source of high quality coal for electrical power generating plants in eastern Utah and the Midwest. The mine is an important component of local economies. SUFCO and dependent trucking companies provided 20 percent of the non-farm employment and 28 percent of the personal income in Sevier County in 2002. The added profits, due to reduced transport costs, substantially lower risk of failure for the SUFCO Mine, and provide a buffer to economic consequences for Sevier County and to a lesser extent Emery County. The presence and stability of the SUFCO Mine, and the families who support it, guarantee a continued demand in both Sevier and Emery counties for bank loans, mortgages, utilities, and other goods and services.

Profitability of the SUFCO Mine, over time, also ensures that funds are available for further exploration, and maintains the Mine’s level of production. Due to the Mine’s location in rugged terrain, and the distance to railheads and loadouts, SUFCO relies on truck transport for all of its coal shipments.

Decision and Rationale for the Decision

Decision

I have decided to authorize a Right-of-Way for Sevier County Special Services District 1, for that portion of the road which will be located on National Forest System (NFS) lands as described in **Alternative D - Water Hollow Road, Preferred Alternative**. **Only that portion of Alternative D that is located on NFS lands will be authorized by this decision.**

As a condition of approval of the Quitchupah Creek Road Right-of-Way, SSD, its employees, contractors, agents, assignees, and operators shall comply with the Applicant-Committed Environmental Protection Measures, the Agency-Committed Environmental Protection Measures, and Best Management Practices (BMPs) for Alternative D as shown in Chapter 2 and Appendix B of the FEIS.

Attachment A of this document describes the details of my decision, including incorporated design features and additional mitigation. **Figure 1** and **Figure 2** identify the location of the road generally and specifically on the Fishlake National Forest, respectively. The legal land description is as follows:

Junction Quitchupah Creek Road: through:	SE1/4 of Section 18, T.22 South, R.5 East, SLBM Sections 18, 17, 20, 21, 28 and 33, T.22 South, R.5 East, SLBM Sections 1, 2, 3, 4, T.23 South, R.5 East, SLBM Section 35, T.22 South, R.5 East, SLBM
Junction SR-10:	NW1/4 of Section 1, T.23 South, R.5 East, SLBM

Decisions on lands owned and/or administered by other agencies or entities are documented in other respective decision documents.

The Alternative D route generally follows an existing road in Convulsion Canyon for 2.1 miles where it crosses Quitchupah Creek and then continues for approximately .5 mile to the Fishlake National Forest boundary (Figure 2).

This decision is based on my review of the analysis presented in the Final EIS for the Quitchupah Creek Road Project, consideration of public and other agency comments received on the Draft EIS, and discussions about the project’s anticipated effects with both the Interdisciplinary Team and Forest Staff.

This decision is one that involved a balancing of several considerations. When compared to the other alternatives, this alternative will fulfill the purpose and need for the project while minimizing the potential environmental impacts. The road will aid SUFCO Mine in being more cost-effective in the industry and continue to provide economic support for Sevier County while

addressing public interests, considering surface resources management, and implementing responsible environmental protection.

Rationale for the Decision

Some of the important considerations in reaching this decision are:

- Degree to which the proposed environmental protection measures reasonably minimize impacts to environmental resources
- The potential to mitigate adverse effects on historic properties and cultural values.
- Predicted effects on surface water quality in the area as compared to State and Federal requirements
- Coordinating the evaluation of environmental impacts in this FEIS with other ongoing and planned studies by State and Federal agencies.
- The economic impact on the local economies.
- The road will also serve as a public road in the state's rural collector system.

I believe that Alternative D, the Water Hollow Route, fulfills the statutory mission and responsibilities of the Forest Service, giving consideration to economic, environmental, technical, and other factors.

Alternative D avoids all known cultural sites, and will have a process in place to mitigate previously undiscovered sites if uncovered during construction. The effects of the project on cultural and/or historical properties have been considered relative to Section 106 of the National Historic Preservation Act and measures are incorporated to minimize impacts to cultural sites per Executive Order 13007. Native American concerns have been satisfied by selection of the Water Hollow route whereby the majority of road construction will be conducted outside the areas that the Paiute Tribe has claimed as sacred and where construction of the road along Quitchupah Creek as described in Alternative B has been opposed. In order to document and clarify the sacred claim, an ethnographic study of the Paiute and their association with the Quitchupah Creek area was undertaken. The study supports the Quitchupah Creek area as sacred to the Paiute Indian Tribe of Utah. The Alternative D – Water Hollow route avoids most of the rock art complex at North Fork, eliminating potential impacts to the rock art due to truck emissions, vibrations, and construction activities. The total avoidance of sites is consistent with requests made by the Paiute and Ute Tribes during consultation. Subsequently, the Paiute Tribe expressed their satisfaction with the study and stated their support of Alternative D.

Regarding water resources, there will be impacts to water resources in the Water Hollow drainage due to construction activities; however, road construction and maintenance for Alternative D will have less impact on the lower Quitchupah Creek channel than other alternatives. The environmental protection measures incorporated into the design of the project will improve water quality by decreasing salinity at the SR-10 bridge, positively affecting the downstream stretch designation as 303(D).

Fencing barriers to protect the riparian zones along Quitchupah Creek from livestock grazing would be installed on 4.7 miles of Federal and State administered land and maintained by the applicant. Wildlife friendly crossings would be provided on each side of the stream at designated locations.

Project implementation will not be allowed until all necessary Section 404 permitting requirements from the U.S. Army Corps of Engineers and the State of Utah for disturbance of stream channels and designated wetlands in Convulsion Canyon, East Spring Canyon, and Quitcupah Creek have been met and the permit has been approved and issued to the SSD. Under this Alternative, junction with SR-10 will require less turn lanes and much shorter acceleration lanes than the Proposed Action and will not require a doubling of the width of the bridge over Quitcupah Creek.

The estimated cost to construct the road, including environmental protection measures, monitoring, and a junction with SR-10, will be \$14.4 million, the most expensive of the build alternatives. SUFCO Mine will benefit from a shorter route for transporting coal to eastern markets and will save from \$4-9M annually that could be applied to exploration, and increasing efficiency in mining, which will continue their contribution to the local economy. Approximately 1.4M gallons of fuel will be conserved annually with this alternative. Utah Department of Transportation (UDOT) will also save about \$0.5M annually on maintenance costs on SR-10.

This decision has been reviewed for compliance with the applicable land use plans and is in conformance with applicable County General Plans.

The Forest Service and BLM have coordinated with the U.S. Fish and Wildlife Service on Threatened and Endangered species. A biological assessment was prepared for the project which states that implementation of the Preferred Alternative and associated environmental protection measures may affect, but are not likely to adversely affect the *San Rafael cactus*, an Endangered plant species, the *Winkler cactus*, a Threatened plant species, and the *bald eagle*, a Threatened wildlife species.

The Three-toed woodpecker and the flammulated owl are the only species identified in the Biological Evaluation that have suitable habitat in the project area, located on the Fishlake NF. This alternative will result in a May Impact Individuals or Habitat, But Will Not Likely Contribute to a Trend Towards Federal Listing or of Viability to the Population or Species determination on the flammulated owl and the northern three-toed woodpecker.

The recently signed National Energy Policy Act of 2005 identifies an emphasis on reliable, affordable energy to our nation's consumers, and lessening the impact of energy price volatility and supply uncertainty on Americans. The demand for electricity in the U.S. is projected to increase by 45% over the next 20 years (National Energy Policy website). Access to coal reserves via any of the road alternatives proposed in the FEIS would reduce fuel consumption and help to maintain supplies of diverse and traditional forms of energy (domestic oil, gas, and coal) within the U.S. by shortening the transport routes. The National Energy Policy promotes such developments in the productive and efficient use of energy.

Environmentally Preferred Alternative

Based on the analysis contained in the FEIS, I have determined that Alternative A – No Action, is the environmentally preferred alternative. Alternative A would cause the least damage to the

biological and physical environment and best protect, preserve, and enhance historical, cultural, and natural resources. Under the No Action Alternative, current and ongoing uses would still have direct and indirect impacts, yet they would result in less total impact to the environment, specifically cultural and heritage resources located along Quitchupah Creek.

Other Alternatives Considered

In addition to Alternative D, I considered 3 other alternatives in detail, and 5 alternatives that were eliminated from detailed analysis, all of which are discussed below. The residual impacts to environmental resources would be similar for all of the build alternatives after application of the environmental protection measures proposed by SSD as described in the FEIS. Perhaps the most notable differences between alternatives are impacts to cultural resources, a major concern of Native Americans during consultation. A more detailed comparison of these alternatives can be found in the EIS on pages 2-1 through 2-35.

Alternatives B,C, and D (the build alternatives) would conform to the overall Standards and Guidelines of the Fishlake National Forest land and Resource Management Plan and FEIS. No Forest Plan amendments would be required. The proposed action and alternatives are also consistent with the Sevier County General Plan and the Emery County General Plan.

Summary Comparison of Alternatives Relative to Issues

A summary comparison of resources potentially affected by each Alternative is presented in Table 2.7-1 of the Quitchupah Creek Road Final Environmental Impact Statement. The information presented in this table is a summary comparison of the data presented in detail in Chapter 3 of the FEIS. The effects identified in this table also assume that applicant-committed measures and mitigation will be implemented. The comparison of effects also includes effects that are common to all build Alternatives to demonstrate the relative effect of each Alternative.

Alternative A - No Action

Under this Alternative, the entire existing road would remain in place and the existing uses and environment in Quitchupah Creek and Water Hollow would continue unchanged in the foreseeable future. The historic use of the area for livestock trailing and grazing, the general solitude of the environment, recreational uses, and generally undisturbed condition of the cultural resources would continue. Likewise, current activities in the project area would continue; these include livestock trailing and grazing, erosion, and road/power line maintenance. Emphasis on livestock grazing via intensive range management as identified in the Fishlake National Forest LRMP is likely to continue as the primary management for National Forest Systems lands in Convulsion Canyon.

Alternative B - Quitchupah Creek Road Alignment (Proposed Action)

This alternative would result in the upgrade of the existing road in Quitchupah Creek canyon, which would connect the Acord Lakes Road in Sevier County with SR-10 in Emery County (Figure 1). This alignment generally follows the existing two-track road in Convulsion Canyon/Quitchupah Creek area to the maintained county road in Emery County to junction with

SR-10 at the Quitchupah Creek Bridge. This alignment is approximately 8.9 miles long (.2 mile shorter than the original proposal due to construction design). The legal description is as follows:

Junction Acord Lakes Road: through:	SW1/4 of Section 11, T.22 South, R.4 East, SLBM Section 12, T.22 South, R.4 East, SLBM Sections 18, 17, 16, 15, 14, 13, 24, T.22 South, R.5 East, SLBM Section 19, T.22 South, R.6 East, SLBM
Junction SR-10:	NW1/4 of Section 30, T.22 South, R.6 East, SLBM

The historic use of the area for livestock trailing and grazing, the general solitude of the environment, recreational uses, and generally undisturbed condition of the cultural resources would be heavily modified or reduced. Under this Alternative, grazing and recreation activities and the cultural resources would be significantly affected by construction activities, the road itself, fencing, and other barriers; however, the distance to Acord lakes from Carbon and Emery counties would be reduced. Emphasis on livestock grazing via intensive range management as identified in the Fishlake National Forest LRMP would likely continue, in a modified manner, as the primary management for National Forest Systems lands in Convulsion Canyon.

Alternative C - Alternate Junction with SR-10 and Alternate Design

This alternative would result in the upgrade of the existing road in Quitchupah Creek canyon, which would connect the Acord Lakes Road in Sevier County with SR-10 in Emery County (Figure 1). This alignment follows Alternative B to a point on the western edge of Section 13 T. 22S R. 5E, then turns northeast to gain elevation the last two miles and junction with SR-10 at a favorable grade, 1.5 miles north of the Quitchupah Creek Bridge. The alternate junction allows loaded coal trucks to utilize their momentum to gain elevation and avoid the steep grade on Quitchupah Hill on SR-10. The alternate design includes additional wildlife fencing and underpasses to allow livestock and wildlife to move safely back and forth through the road corridor. The legal description is as follows:

Junction Quitchupah Creek Road: through:	SW1/4 of Section 13, T.22 South, R.5 East, SLBM Section 18, T.22 South, R.6 East, SLBM
Junction SR-10:	SW1/4 of Section 17, T.22 South, R.6 East, SLBM

The historic use of the area for livestock trailing and grazing, the general solitude of the environment, recreational uses, and generally undisturbed condition of the cultural resources would be heavily modified or reduced. Under this Alternative, grazing and recreation activities and the cultural resources would be significantly affected by construction activities, the road itself, fencing, and other barriers; however, the distance to Acord lakes from Carbon and Emery counties would be reduced. Emphasis on livestock grazing via intensive range management as identified in the Fishlake National Forest LRMP would likely continue, in a modified manner, as the primary management for National Forest Systems lands in Convulsion Canyon.

Alternatives Considered But Eliminated From Detailed Analysis

Alternate Road Access

Different routes proposed considered constructing a road across the Old Woman Plateau or through Link Canyon. The Old Woman Plateau is an area south of the SUFCO Mine portal mostly on National Forest system lands that are managed as a Research Natural Area (RNA), portions of which have restrictions prohibiting vehicle travel, so the construction of a transport

road would require an amendment to the Fishlake NF LRMP, and was not analyzed in detail based on environmental impacts.

The proposed Link Canyon route is located just west of the Town of Emery. Link Canyon has a good county-maintained road to the old mine workings where a portal could be located for loading trucks. The portal was identified in the Pines Tract EIS as a potential site for accessing coal in the Pines Tract. However, under the SUFCO mine plan and mining schedule this site is not economically feasible for construction and operation of a loadout. Issues such as constructing a way through naturally burned or oxidized coal at the portal site and restructuring the mine conveyor system to discharge at this portal site were cost prohibitive proposals. In a meeting on June 23, 2000, after reviewing the mine plans and conceptual plans for a Link Canyon Portal, mine engineers for the BLM advised the responsible USFS and BLM officials that this portal plan was not economically viable.

Conveyor Systems

Different methods to transport coal centered on constructing conveyor systems to convey coal to a loadout facility where trucks would transport the coal to destinations in Carbon County. One conveyor system suggested would begin at the SUFCO Mine portal; traverse down East Spring Canyon to Quitchupah Creek where a loadout facility would be constructed. The terrain in East Springs Creek Canyon is too rugged and steep for a conveyor system so this alternative is not feasible from an engineering standpoint.

A conveyor system in Link Canyon was also suggested, because a county road currently exists in the canyon. A conveyor system in Link Canyon would require a loadout facility in the vicinity of Emery Town to load the trucks destined for Carbon County. But because the portal facility was not economically feasible, a conveyor system in Link Canyon becomes a moot point. A slurry system was also considered but the water demands are beyond the area's capability to provide, so this system was also not considered feasible.

Muddy Creek, a deep canyon on the north side of the Pines Tract, which is now being mined through the SUFCO Mine, was also considered as a possible portal site and coal transport route. However, the two primary problems with this alternative are: 1) a route in the canyon would be rough and steep and located adjacent to a stream that provides culinary water, a problem for maintaining water quality, and 2) the mine plan as explained in the preceding discussion on a portal in Link Canyon is not economically feasible.

Public Involvement

On January 15, 1999, the agencies initiated public scoping for the Quitchupah Creek Road Project with the intent of preparing an Environmental Assessment (EA). A field meeting was held March 30, 1999 in the project area, along with informal meetings in Emery County. Other meetings, including the Quitchupah Grazing Association Meeting on January 27, 1999, and the Emery County Public Lands Council Meeting, June 8, 1999, were attended by agency and consultant representatives. Due to the level of public concern for the proposed project, and the issues identified during the scoping process, the USFS and the BLM determined that the proposed project warranted preparation of an EIS. On July 1, 1999, a Notice of Intent (NOI) to prepare an EIS for the Quitchupah Creek Road project was published in the Federal Register. A

scoping notice and request for comments, was published in the *Richfield Reaper* July 14, 1999; the *Emery County Progress* July 13, 1999; and the *Salt Lake Tribune* and *Deseret News* July 15, 1999.

A public mailing list was compiled and 160 letters were sent to interested individuals, agencies, and groups. Public meetings were held as scheduled in Castle Dale on July 21, 1999, and in Richfield on July 22, 1999. Comment forms were available at the meetings. Over 30 people attended the Castle Dale meeting and 23 people signed in at the Richfield meeting. A complete summary of public participation efforts is documented in the Public Involvement Plan which is included in the project record.

A total of 60 comments were received during scoping efforts. In January and February 1999, 25 comments were received for the EA. An additional, 35 comment letters or forms were received as a result of the EIS scoping effort. All of the comments received during both of the scoping efforts were analyzed and incorporated into the EIS.

Between December 11, 2001 and May 7, 2002, a total of 409 comment letters or forms were received as a result of the Notice and Comment period associated with the publication of the Draft EIS. These comments were analyzed, along with additional information developed throughout the duration of the environmental process, and were incorporated and addressed in Chapter 6.0 of the FEIS.

The following official site tours were conducted in Quitcupah Creek:

June 4, 1999	Representatives of the Paiute Indian Tribe of Utah
June 30, 1999	Agency and Sevier County SSD Representatives
July 15, 1999	Concerned Individuals of Emery County
August 6, 1999	Representatives of the Koosharem Band of Paiute Indian Tribe of Utah
March 30, 2000	Representatives of the Uinta and Ouray Ute Indian Tribe of Utah
October 18, 2000	Representatives of the Koosharem Band of Paiute Indian Tribe of Utah
August 22, 2002	Ranchers
June 3, 2003	Agency and State Director
August 28, 2003	Resource Development Coordinating Committee
September 14, 2004	Representatives of the Koosharem Band of Paiute Indian Tribe of Utah

Changes Between Draft And Final EIS

In addition to minor edits and corrections, a number of changes were made to the Draft EIS in preparing the Final EIS. These changes are reflected throughout the Final EIS. The updated information disclosed in the Final EIS falls within the scope of the analysis depicted in the Draft EIS, and in most cases simply provides additional explanation.

The resolution of issues related to this project has been an ongoing and lengthy process. After initial public scoping in 1999-2000, the Quitchupah Creek Road Draft EIS was circulated for public review and comment in November 2001 (See FEIS Chapter 6 – Public Comments and Responses). Since that time, the FEIS has been delayed due to consultation, the development of mitigation, and additional surveys and studies required for specific resources, such as the Ethnography Study conducted in 2004. The Final EIS takes into account numerous public and agency concerns, issues and views, as well as adaptation to changes in land use policy and guidelines, by both the USFS and BLM.

I do not believe that the edits, corrections, and/or additional analysis necessitate the development and issuance of a Supplemental EIS.

Findings Required by Other Laws and Regulations

The project will meet the requirements of the Endangered Species Act.

In order to comply with provisions of the Migratory Bird Treaty Act, incorporation of seasonal restrictions and buffers from active raptor nests on construction activity are required.

The incorporation of seasonal restrictions and buffers from active eagle nests on construction activity will comply with provisions of the Bald Eagle Act.

The project will not result in a violation of Clean Air Act standards.

This decision to authorize a right-of-way to the SSD is consistent with the intent of the long term goals and objectives listed in Chapter IV (Forest Management Direction) of the Fishlake Forest Plan. The Quitchupah Creek Road project was designed in conformance with Forest Plan standards and incorporates appropriate Forest Plan guidelines as indicated in the table below.

Management Activities	Page
Water Resource Improvement and Maintenance	IV-35
Special Use Management	IV-38
Rights-of-Way and Land Adjustments	IV-39
Local Road Construction and Reconstruction	IV-45

This decision is also in conformance with Management Area Direction (6B – Emphasis on Livestock Grazing) as described in the Forest Plan, pages IV-109 through IV-113.

Implementation

Implementation Date

If no appeals are filed within the 45-day time period, implementation of the decision may occur on, but not before, 5 business days from the close of the appeal filing period. If one or more

appeals are filed, implementation may occur on, but not before, the 15th business day following the date of the last appeal disposition.

Administrative Review or Appeal Opportunities

This decision is subject to appeal pursuant to Forest Service regulations at 36 CFR 215. Appeals must meet the content requirements of 36 CFR 215.14. Appeals must be postmarked or received by the Appeal Deciding Officer within 45 days of the publication of this notice in *Richfield Reaper*. The Appeal Deciding Officer is Jack Troyer, Regional Forester. Appeals must be sent to: Appeal Deciding Officer, Intermountain Region USFS, 324 25th Street, Ogden, Utah 84401; or by fax to 801-625-5277; or by email to: appeals-intermtn-regional-office@fs.fed.us. Emailed appeals must be submitted in rich text (rtf) or Word (doc) and must include the project name in the subject line. Appeals may also be hand delivered to the above address, during regular business hours of 8:00 a.m. to 4:30 p.m. Monday through Friday.

Contact Person

For additional information concerning this decision or the Forest Service appeal process, contact Christopher Wehrli, Environmental Coordinator, Fishlake National Forest, 115 E. 900 N. Richfield, UT 84701, (435)-896-9233.

MARY C. ERICKSON
Forest Supervisor

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APPENDIX A

Alternative D - Water Hollow Road Alignment

The Alternative D - Water Hollow Road will utilize the Quitchupah Creek Road Alignment for 2.0 miles of the westernmost portion of its alignment. At that point, it crosses Quitchupah Creek and follows to the south of this drainage for approximately .5 mile to the Forest boundary, the route continues in an easterly direction along an existing jeep trail to Water Hollow Benches where it then turns south to Saleratus Benches. From Saleratus Benches, the Water Hollow Road Alternative then turns north and east to connect with SR-10 (Figure 1).

The Water Hollow Road Alternative alignment begins at the junction with Acord Lakes Road (Sevier County Road #010), at an elevation of approximately 7,550 feet above mean sea level (AMSL); this alignment is 11.25 miles long and drops 1,430 feet in elevation for an average grade of 2.5 percent. The descent into Water Hollow has an average grade of 4 percent, and the ascent out of Water Hollow onto Water Hollow Bench is 7 percent for 900 feet.

The acreage of impact for the Water Hollow Alternative is 146.3 acres. The crossing of Water Hollow will require large cuts up to 65 feet deep on both approaches and a large fill 90 feet high and 350 feet wide. This alignment also crosses several other large perennial and ephemeral tributary drainages, for a total of 20 primary crossings.

Except for the western end where the Water Hollow road will obliterate the existing two-track road (approximately 2.1 miles), the existing road along Quitchupah Creek will remain in place. However, at the Fishlake National Forest boundary, motorized access to the paved road will be restricted and signs will be posted to discourage unauthorized access.

Lands

The lands crossed by this build alternative include mostly public lands and one parcel of private land. Table A-1 describes the length of the Water Hollow Road alternative within each jurisdiction and the estimated disturbance.

**Table A-1
Alternative D -Water Hollow Road Land Status and Proposed Disturbance**

Land Mgmt	Road Distance (miles)	County Jurisdiction	Construction Disturbance (acres)	Existing Road Disturbance (acres)	Staging Areas (acres)	Pull-Outs (acres)	Total New Surface Disturbance (acres)
USFS	2.52	Sevier	30.5	2.6	5.0	0.3	33.2
BLM	7.94	Sevier	95.3	0	10.0	0.6	105.9
SITLA	0.26	Sevier	2.4	0	0	0	2.4
Private	0.53	Sevier	4.8	0	0	0	4.8
Totals	11.25		133.0	2.6	15.0	0.9	146.3

The public lands include those managed by the BLM, Richfield Field Office headquartered in Richfield in Sevier County. The National Forest System lands are managed by the Fishlake National Forest headquartered in Richfield, Utah. SITLA has jurisdiction over the small portion of the route owned by the state of Utah. The private landowner is Castle Valley Ranches, LLC.

Details for design and construction are available for this alternative alignment Appendix B of the FEIS.

Pullouts

Each pullout will be 30 feet wide by 100 feet long unless the design is to use the existing road. Pullouts for Alternative D are proposed at the following stations:

Station 12+00 to 13+00	north side of proposed road
Station 60+00 to 63+50	north side, use existing road as pullout
Station 121+00 to 122+00	south side of road
Station 174+50 to 175+50	south side of road
Station 182+00	north side of road, access point from old road
Station 219+00 to 220+00	south side of road
Station 239+00 to 240+00	east side of road
Station 299+00 to 300+00	east side of road
Station 325+00 to 326+00	east side of road
Station 497+00 to 498+00	north side of road

SR-10 Junction

The proposed road will junction with SR-10 approximately 6.5 miles south of Emery Town and 2.0 miles south of the Quitchupah Creek bridge, creating a new intersection. Because the proposed road will carry coal truck traffic, both right and left turn lanes will be required for the proposed road. Since there is little grade for northbound traffic, an acceleration lane of 1,380 feet will be required for the coal truck traffic. Thus, there will be three lanes south of the intersection and four lanes north of the intersection. This construction will be under the direction of UDOT and according to UDOT and AASHTO standards. An access permit will be required from UDOT.

The disturbance for construction of the intersection and additional lanes will occur within the UDOT right-of-way or acquired right-of-way.

Wildlife Bridges, Stream Crossings, and Culverts

Big game animals cross this road area to access winter and summer ranges, therefore, wildlife crossings must be constructed at strategic locations along the route to facilitate migration patterns.

Utah Division of Wildlife Resource guidelines suggest the following: “Structures designed to allow wildlife passage below the road should meet an “openness ratio” of one or greater. This is to say that the width of the bridge multiplied by the height of the bridge, divided by the length of the bridge, should be at least “1”. Since these bridges must accommodate mature bull elk, the height of the bridge must be at least 16 feet to allow for antler clearance (Jones, 2005, Letter from Derris Jones, Regional Supervisor, S.E. Region, UDWR, August 31, 2005).

The road alignment for Alternative D will require a total of 44 culvert crossings and five bridge crossings (UDWR, Mead 2005, email from Leroy Mead, UDWR, 3-30-2005). Figure 2-12 in the FEIS shows the locations of these crossings. This includes 20 primary crossings and 29 secondary crossings. Both primary and secondary culvert crossings, and bridges, will be designed to pass the 100-year flow, as calculated by UDOT methodology (UDOT, 2002). Table A-2 identifies the primary culvert crossing locations, design flows, and culvert diameters; as well as the recommended wildlife crossing bridge locations. Two additional wildlife bridge crossings are suggested by UDWR and shown in the table. Final number, placement, and design of the wildlife bridge crossing structures will be determined during project implementation in consultation with the UDWR and BLM biologists.

Table A-2

Primary Culvert Crossing Information - Alternative D

Station	Design Flow (cubic feet per second)	Minimum Culvert Diameter (inches)/ Bridge Crossing RCMP unless noted
11+00	123	60
18+00	173	72
66+00	234	84
94+00	252	84
121+50	419	Wildlife Bridge**
131+50	125	72
177+00	1060	Wildlife Bridge**
229+50	52	Wildlife Bridge**
255+00	56	Wildlife Bridge**
306+50	120	Wildlife Bridge**
338+00	75	54
339+50	75	54
341+50	58	48
366+50	66	48
384+50	42	48
412+50	324	72
419+00	9	96
432+00	173	48
463+00	356	96
471+00	53	96
359+40		Wildlife Bridge ** (Additional UDWR suggested)
507+80 or 491+90 or 493+10		Wildlife Bridge ** (Additional UDWR suggested)

*Crossing will provide for fish passage.

** These crossings are addressed in mitigation measures for wildlife.

Note: At crossings where fish passage is required, specialized culverts may be used, and diameter/type may vary from what is given above. However, in all cases, capacity will be capable of passing the 100-year flow at a minimum.

Additional Note: Structures designed to allow wildlife passage below the road should meet an “openness ratio” of one or greater. This is to say that the width of the bridge multiplied by the height of the bridge, divided by the length of the bridge, should be at least “1”.

Depending upon the season of construction, three of these crossings can be expected to be wet. Best Management Practices (BMPs) that will be implemented during culvert design, placement, and maintenance are described in Appendix B.

In addition to the crossing culverts, numerous borrow ditch relief culverts will be used to direct and control road and upgradient runoff. These culverts will be spaced at 500-foot intervals or less, depending upon road slope and proximity to stream channels. BMPs that apply to borrow ditch relief and other road drainage issues are contained in Appendix B.

Applicant-Committed Environmental Protection Measures for Alternative D

Wetlands and Waters of the U.S.

The U.S. Army Corps of Engineers (COE) under authority of Section 404 of the Clean Water Act as amended and Executive Order 11990 requires that all impacts to jurisdictional wetlands be mitigated. The b(1) guidelines provide an established process for determining if the permit to be issued for filling wetlands and the accompanying mitigation plan is in the best interest of the Nation's wetlands. The b(1) guidelines offer three tiered steps: 1) to avoid impacts to wetlands, 2) if avoidance is not possible then minimize impacts, and 3) if avoidance and minimization of impacts is not possible then mitigate impacts.

There are five jurisdictional wetlands in the immediate vicinity of the proposed road; one 0.07-acre wetland at Station 44+00 and one 0.26-acre wetland at Station 67+00 in East Spring Canyon will be impacted. The COE has indicated that it will require a mitigation ratio of 3:1 on the acreage in the same watershed, and the conceptual mitigation plan more than meets that. The potential mitigation sites within the Quitchupah Creek watershed are somewhat limited mainly due to the dynamics of the channels, which either makes it difficult to divert sufficient water to establish a wetland, or thwarts efforts to permanently establish a wetland basin or area because of their instability.

In addition to the wetland near East Spring Creek, the creek also has a hydric fringe in the flat bottom of the channel. To compensate for the combined loss of approximately 0.33 acres of wetlands filled at Stations 44+00 and 67+00, three measures will be designed and installed as follows:

- 1.** The existing wetland at Station 48+00 is located at the head of the perennial stream in Convulsion Canyon but downstream of the realigned ephemeral channel in the upper canyon. The source of water for the wetland is subsurface flows surfacing in the channel at Station 41+00 and a spring at the foot of a large rock adjacent to the existing two-track road. Headcutting has begun where the wetland discharges into the stream channel. The installation of a structure to elevate the discharge point four to five feet above the incised stream will enlarge the wetlands capacity by approximately 1,000 yds³, and a hardened discharge point will stop the headcutting action. The enlarged capacity of the wetlands will allow for retention of the sediments generated upstream by realignment of the ephemeral channel. The enlarged wetlands will cover approximately 0.33 acres.
- 2.** A potential wetland site exists at Station 62+50 where the stream coming out of Convulsion Canyon has created a willow community on a bench with a 2 percent gradient. An in-line

wetland system will be created at this location by allowing streamflow to fill behind several shallow dikes constructed across the channel/floodplain area. Upstream of each dike, excavated areas will be dug to increase saturated areas. The resulting ponds and saturated areas will create a diversified wetland complex, ranging from flowing water, ponded open water, and saturated soils. The dikes will be designed with spill points to discharge excess water. The combined wetland acreage to be created will be 1.2 acres. With a combined capacity of 2,000 yds³, the diked areas will also serve to retain sediments. They will use approximately 6 percent of the average annual flow of Convulsion Canyon.

Items 1 (0.33 acres) and 2 (1.2 acres) above will result in a total of 1.53 acres of wetlands that will be enhanced or increased as a result of mitigation. Subtracting the 0.31 acres of poor quality wetlands already present at station 48+00 gives a total of new wetland creation of 1.22 acres. Given the loss of 0.33 acres of wetlands due to filling at Stations 44+00 and 67+00, the proposed mitigation will exceed the Corps' minimum 3:1 replacement ratio. Final detailed wetland mitigation designs must be approved by the COE. The above conceptual plans have been discussed with the current COE representative assigned to this project, who has agreed in concept with the mitigation strategy. However, specific approval will not come until the formal application process is undertaken.

3. The East Spring Canyon stream will be brought under the proposed road through a 170-foot long culvert at Station 65+50. From the mouth of the culvert downstream for approximately 900 feet, the channel will be newly constructed and will parallel the road fill to rejoin the existing stream channel upstream of the juncture with Convulsion Canyon. Channel designs will be based upon BMPs given in Appendix B of the FEIS. The resultant constructed channel will emulate the existing channel in dimensions, cross-section, and gradient so the flows, hydric fringe, wetlands, and riparian zone will replace that covered with road fill. The placement of check dams, deflectors, and riprap will help stabilize the new channel as it adjusts to the flows. Salvage of riparian vegetation (such as cut willow, sedge clumps, etc.) from the abandoned channel will be used where practical to boost vegetative success along the new channel. The channel will not be as deep as the incised channel; it will be designed to contain bankfull flows, with overbank areas accommodating larger flood events.

For a more complete description of the wetlands mitigation, refer to Strip Map 2 in Appendix B of the FEIS.

Water

As a result of coal loading, coal trucks have coal dust and debris on the exterior of the truck that is blown off as the truck travels; this dust and debris becomes part of sediments along the roadbed. Since coal trucks traveling in Convulsion Canyon will be in close proximity to the stream, fugitive coal dust from the trucks would readily enter the stream system as airborne or waterborne sediments. To prevent this, the coal trucks loading at the SUFCO Mine will be cleaned after loading and prior to entering the public road system to remove fugitive coal particles from the exterior of the truck and trailer.

Raptor Protection

The haul route will be patrolled daily, during daylight hours, to pick up and dispose of all animal carcasses (wild and domestic, large and small) in order to keep the road surface clear. This will reduce scavenging on the road surface by raptors and vultures. The concern is that carcasses that aren't readily removed from the road will attract scavengers. Scavengers present on the road while feeding can cause unnecessary mortality among the protected raptors. The Sevier County Special Services District will be responsible for removing carcasses to a specified disposal area in accordance with the regulations of the State Board of Health. This will continue for the duration of the life of the mine. The SSD, or contractor employed by the SSD, will secure and maintain any necessary license or permits required by State or local authorities to perform this service.

Livestock

Cattle Trail

In order to accommodate cattle movement along the road corridor, a fenced cattle trail will be constructed within the road right-of-way on Forest lands, on the north side of the alignment, between the underpass at Broad Hollow and Station 60+00, approximately 1½ miles in length. The fenced trail will continue in intermittent sections below this Station in areas where terrain restricts movement of cattle outside the right of way. The trail will be 15 to 20 feet wide, and in some places narrowed to 10 feet wide. The trail width will be cleared of vegetation during right-of-way preparation; it will be seeded once road construction is completed. Access to the trail will be gated on either end; cattle will be trailed along the road to the fenced cattle trail entrance in the spring, and cattle will gather at Broad Hollow to be let back on the trail in September. At Station 60+00, the continuous fenced trail will end, but cattle will continue to trail down outside the fenced road right-of-way and into the intermittent fenced sections of cattle trail down to the holding facility at the Forest boundary. Holding facilities will be constructed and maintained by the SSD in Broad Hollow and at the east boundary of the Forest to hold cattle that drift prior to the opening of the cattle trail gate. Water will be provided at the holding facilities by the SUFCO Mine.

G.L. Olsen Allotment

Since a relatively high number of cattle are concentrated in this small allotment, the proposed road will need to be fenced to restrict cattle access to the road. Also the road in the allotment is mostly cut below the natural grade, creating a wide ditch with steep sideslopes making it difficult for cattle to enter and exit the ditch. To control the cattle and better manage the allotment, the proposed road will be fenced.

The fencing will extend on both sides of the cuts and/or fills from Station 187+00 on the west to Station 275+00 on the east, a distance of 8,800 feet (1.6 miles). Cattleguards on the proposed road and natural barriers at each end of the fence will restrict cattle movement past the fenced portions of the road. On the west, the cliffs and cattleguard will prevent cattle from entering Water Hollow. This will relieve grazing pressure on the narrow riparian zone in Water Hollow and on The Cove tributary. On the east, the cattleguard and natural barriers of the drainages with cliffs will prevent cattle drift into the Saleratus Allotment. Gates located every mile will allow cattle to be moved across the proposed road when needed and will allow cattle that did accidentally enter upon the roadway to be removed.

Since the cattle will be blocked from watering in Water Hollow, and the two ponds on the east are usually dry, a water system will be developed to provide water for the cattle during the short grazing season. The system will consist of 5,000 gallon (or larger) water storage tanks located at Stations 223+00 and 261+00 with a pipe system extending to water troughs located 500 to 1,300 feet away from the proposed road on both sides of the road. The system will be gravity-fed with water levels in the troughs controlled by float valves. The SSD will haul water to the storage tanks located along the road during the 4-6 week grazing season. Two watering systems are required because of deep drainages with cliffs blocking movement of cattle.

The allotment, divided by the road, with watering troughs on both sides of the road, will be fenced and managed as a two pasture allotment. The turn-in pasture will be rotated each year to better manage the forage. The cattle will be moved internally between pastures as stipulated in the allotment management plan and will cross the road at a designated time when coal transport was not scheduled or coal transport was halted to allow for the crossing. Cattle will enter and exit the allotment via a trail directly from Quitchupah Creek to the north.

Saleratus Allotment

Because the cattle concentrate on the lower elevations of this allotment, fencing will be needed to restrict cattle access to the proposed road. The fence will start at Station 435+00 on the west where steep terrain combined with a cattleguard on the road will block westward cattle movement. The fence will extend east across the lower slopes and valleys to Station 594+50 where it will join with the right-of-way fencing along SR-10. A cattleguard will also be installed here to prevent cattle on the road from entering the SR-10 roadway. Gates will be placed approximately every mile to allow for any needed cattle movement north and south or removal of trespass cattle on the road. There will be about 19,000 feet (3.6 miles) of fencing along the upper benches and no fencing along the rough terrain below the benches for approximately 16,000 feet (about 3 miles). Cattle will only be moved across this road, either by moving when coal transport is not scheduled or scheduling a halt to transport so the cattle will be moved at a designated time.

Riparian Protection

Riparian fencing along Quitchupah Creek will be installed and maintained by SSD on public lands (BLM, FS, and SITLA) adjacent to the road. This includes about 2.4 miles on National Forest System lands, about 1.2 miles on State lands, and about 1.1 miles on BLM lands contiguous to the State parcel, for a total of about 4.7 miles of Quitchupah Creek that will be fenced. The riparian fencing is expected to be 3-wire 42" standard wildlife fence. Wildlife friendly crossings will be provided on each side of the stream at locations correlated to migration corridors and/or wildlife trails. These crossings will be approximately 33 feet wide, the same height as the other fencing, and constructed of lodgepole or similar material. Fence design, installation, and maintenance will be meet agencies' specifications. Riparian fencing will exclude cattle from the stream except at designated watering locations.

Agency-Committed Environmental Protection Measures for Alternative D

The riparian zones of Quitchupah Creek and Convulsion Canyon have degraded over the years, due to several reasons. To alleviate this condition and restore the riparian zones, livestock grazing will be eliminated on approximately 4.7 miles of stream through a combination of

grazing permit changes, fencing along the proposed road, and cross-fencing where necessary. The actual fencing will be completed under an applicant-committed measure as described above; the permit actions related to this measure will be handled by the appropriate agencies. Fenced watering points will be provided where underpasses allow livestock to pass under the proposed road and access the stream. The construction of the proposed road is the primary catalyst for the changing management of grazing within the riparian zone.

Specifically, on National Forest System lands in Convulsion Canyon, the livestock will trail on the fenced livestock trail, to and from summer pasture in the Quitchupah Allotment and will no longer have access to the riparian zone or the mitigation wetlands and stream realignment. The spring trailing will begin in the private lands at the east boundary of the National Forest System lands. The fall trailing will begin at the holding facility adjacent to Acord Lakes Road.