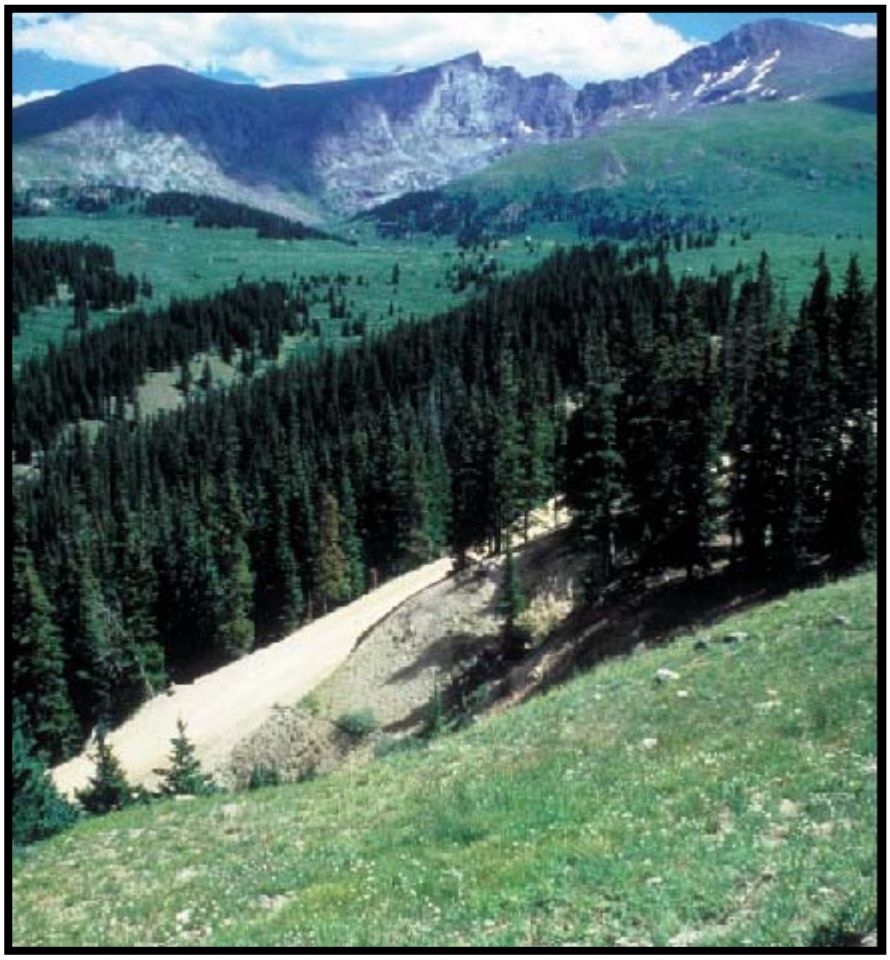
FHWA-FPCO-EIS-99-01-F

Record of Decision

GUANELLA PASS ROAD



U.S. Department of Transportation
Federal Highway Administration
Central Federal Lands Highway Division

Federal Lands Highway
1983 to 2003
FHWA

January 2003

FHWA-FPCO-EIS-99-01-F

COLORADO FOREST HIGHWAY 80, GUANELLA PASS ROAD

Park County Road 62
Clear Creek County Road 381
Forest Development Road 118
Grant to Georgetown
Pike and Arapaho National Forests
Park and Clear Creek Counties, Colorado
Town of Georgetown, Colorado

RECORD OF DECISION

Submitted Pursuant to 42 U.S.C. 4332 (2) (c)
And 49 U.S.C. 303 by the
U.S. Department of Transportation
Federal Highway Administration
Central Federal Lands Highway Division

Cooperating Agencies

Colorado Division of Wildlife	U.S. Army Corps of Engineers
Colorado Department of Transportation	U.S. Forest Service

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METRIC TO ENGLISH/ENGLISH TO METRIC CONVERSION FACTORS (APPROXIMATE)

When You Know:	Multiply by:	To Find:
meters	3.281	feet
feet	0.3048	meters
kilometers	0.621	miles
miles	1.609	kilometers
hectares	2.471	acres
acres	0.405	hectares
metric tons	1.1025	tons
tons	0.907	metric tons
kilograms	2.2046	pounds
pounds	0.4536	kilograms
µg/L	8.346×10^{-9}	lbs/gal
lbs/gal	1.198×10^{8}	µg/L
km/h	0.6214	mph
mph	1.6093	km/h
liters	0.2642	gallons
gallons	3.785	liters
millimeters	0.03937	inches
inches	25.400	millimeters

The stationing in the following discussions and figures relates to the horizontal distance in meters from the intersection of US Highway 285 and Guanella Pass Road. Stationing is expressed as kilometers plus meters. The intersection is station 1+000. For example, the summit is approximately 21 kilometers, or 21,000 meters, from the US Highway 285 and Guanella Pass Road intersection, and the corresponding station is 22+000 (1+000 plus 21+000).

LIST OF ACRONYMS AND ABBREVIATIONS USED IN THIS DOCUMENT

AADT	Annual Average Daily Traffic
AASHTO	American Association of State Highway and Transportation Officials
ADA	Americans with Disabilities Act
BO	Biological Opinion
BMPs	Best Management Practices
CDOT	Colorado Department of Transportation
CDOW	Colorado Division of Wildlife
CDPHE	Colorado Department of Public Health and Environment
CFLHD	Central Federal Lands Highway Division
CFR	Code of Federal Regulations
CMS	(Scenic and Historic Byway) Corridor Management Strategy
dB(A)	Decibels (A-weighted)
DEIS	Draft Environmental Impact Statement
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
FEIS	Final Environmental Impact Statement
FH	Forest Highway
FHWA	Federal Highway Administration
FS	Forest Service
GSPNHLD	Georgetown-Silver Plume National Historic Landmark District
km/h	kilometers per hour
MOA	Memorandum of Agreement
mph	miles per hour
NAGPRA	Native American Graves Protection and Repatriation Act
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NTU	Nephelometric Turbidity Unit
PCB	polychlorinated biphenyl
ROD	Record of Decision
SDEIS	Supplemental Draft Environmental Impact Statement
SEE	Social, Economic, and Environment
SHPO	State Historic Preservation Officer
SWPPP	Storm Water Pollution Prevention Plan
TES	Threatened, Endangered, and Sensitive
TRR	Tumbling River Ranch
µg/L	micrograms/Liter
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WEPP	Water Erosion Prediction Project

Copies of this ROD are available for review at the following locations:

Arapaho National Forest
Forest Supervisor's Office
240 West Prospect Street
Fort Collins, Colorado

Arapaho National Forest
Clear Creek Ranger District
101 Chicago Creek
Idaho Springs, Colorado

Federal Highway Administration
Central Federal Lands Highway Division
555 Zang Street
Lakewood, Colorado

Tomay Memorial Library
604 6th Street
Georgetown, Colorado

Clear Creek County
405 Argentine Street
Georgetown, Colorado

Denver Public Library
10 West 14th Avenue
Denver, Colorado

Pike National Forest
Forest Supervisor's Office
1920 Valley Drive
Pueblo, Colorado

Pike National Forest
South Platte Ranger District
19316 Goddard Ranch Court
Morrison, Colorado

US Forest Service
Region 2
740 Simms Street
Golden, Colorado

Park County Library -Fairplay
418 Main Street
Fairplay, Colorado

Park County Library - Bailey
(2 copies)
350 Bulldogger Road
Bailey, Colorado

Park County Clerk and Recorder
501 Main Street
Fairplay, Colorado

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I. Introduction

This Record of Decision (ROD) addresses the proposed improvements to Colorado Forest Highway 80, Guanella Pass Road (also known as Park County Road 62, Clear Creek County Road 381, and Forest Development Road 118). Guanella Pass Road is approximately 72 kilometers (45 miles) west of the Denver metropolitan area. It begins at U.S. Highway 285 in Grant, Colorado, and proceeds in a northerly direction over Guanella Pass, ending at the south edge of Georgetown, Colorado. Figure I is a map showing the location of Guanella Pass Road with respect to the City of Denver, Colorado. The roadway is 38.3 kilometers (23.7 miles) in length with the southern 17.2 kilometers (10.7 miles) in Park County and the northern 21.0 kilometers (13.0 miles) in Clear Creek County. Approximately 1.1 kilometers (0.7 miles) of the Clear Creek County portion is within the Georgetown town limits. The road passes through the Pike-San Isabel and Arapaho-Roosevelt National Forests and is used primarily for recreational purposes (90 percent of traffic). The Federal Highway Administration (FHWA) has proposed this project in cooperation with the Forest Service (FS), Park County, Clear Creek County, the Town of Georgetown, and the Colorado Department of Transportation (CDOT). The FHWA is the lead agency. The FHWA plans to begin implementing the project in 2003.

Guanella Pass Road, as it exists today, is an accumulation of the construction and maintenance efforts of six entities including Park County, Clear Creek County, the FS, the Town of Georgetown, Xcel Energy, and the former Geneva Basin Ski Area. The last major construction work was completed in the early 1960s. The proposed project is included in the Colorado State Transportation Improvement Program. Currently, 48 percent of the road is surfaced with aged pavement or chip seal. The remaining 52 percent of the road has a dirt or gravel surface. Guanella Pass Road is maintained by Park County, Clear Creek County, and Georgetown. In 1990, Guanella Pass Road was designated a Colorado Scenic and Historic Byway by the CDOT, and in 1991 Guanella Pass Road was designated a National Forest Scenic Byway.

The purpose of the Guanella Pass Road improvement project is shaped by the need to balance transportation needs (including recreational access to FS lands) and roadway maintenance needs with the sensitive nature of the environment. Table 1 presents eight project objectives that describe the purpose of the project. The objectives were developed based on the needs identified by the FHWA, FS, and CDOT with input from the local agencies (town and counties) and the public.

An extensive public and agency involvement process was completed for the Guanella Pass Road improvement project. This scoping process identified the following six key issues for this project:

- Social Environment
- Water Resources
- Visual Quality
- Recreational Resources
- Plants and Animals
- Construction Impacts

Social Environment includes community character, traffic volumes, population and demographics, the local economy, cultural (historical and archaeological) resources, and

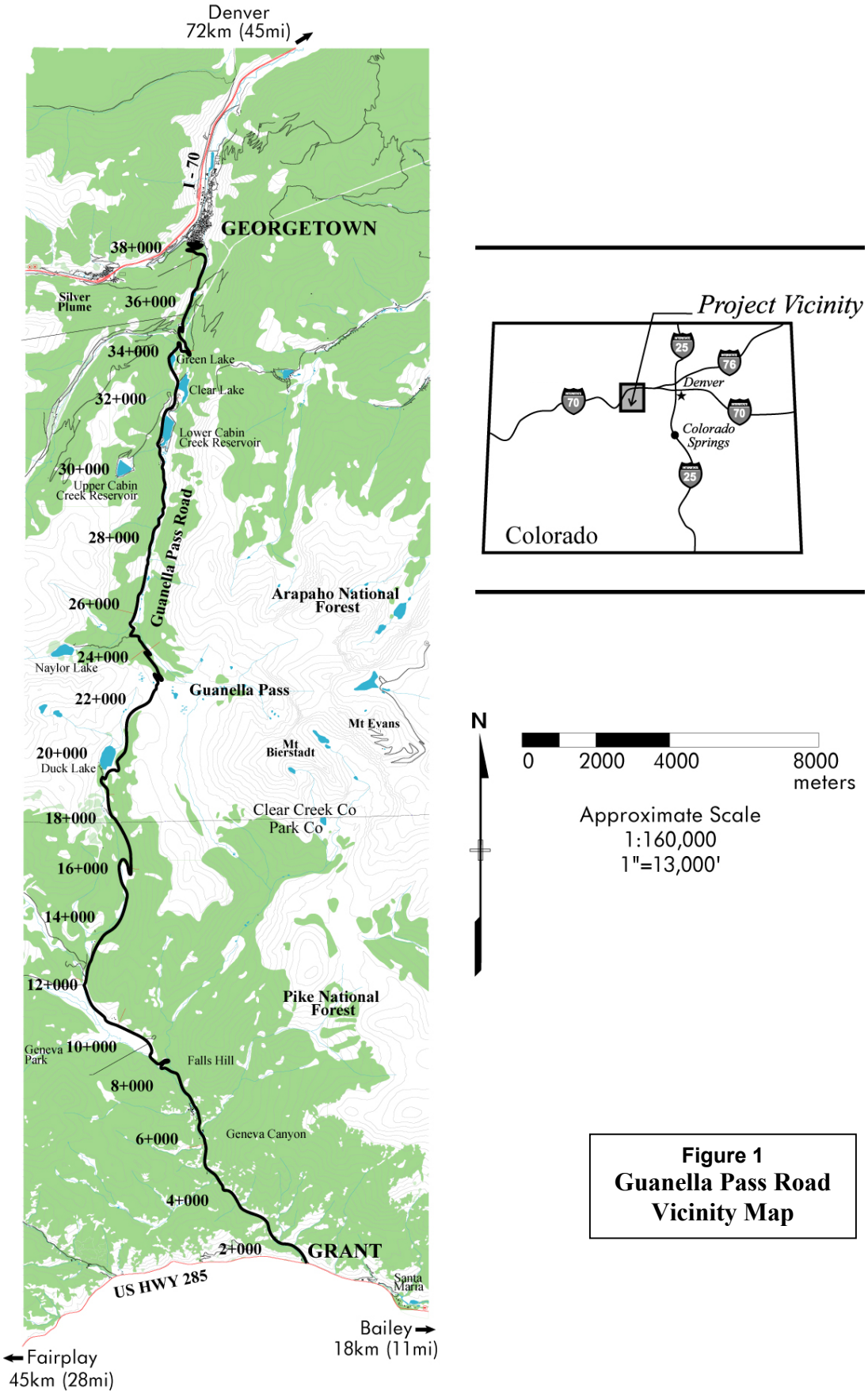

Figure 1
Guanella Pass Road
Vicinity Map

Table 1: Objectives of the Guanella Pass Road Improvement Project

Transportation
I. Provide a roadway width and surface capable of accommodating year 2025 traffic volumes.
II. Improve safety by providing consistent roadway geometry and providing reasonable protection from unsafe conditions.
III. Accommodate and control access to Forest Service facilities located along the road.
Maintenance
IV. Reduce the anticipated maintenance costs to the counties and town maintaining the road.
V. Repair roadway drainage problems.
Environment
VI. Repair existing unvegetated slopes.
VII. Avoid, minimize, or mitigate adverse impacts to the environment by considering key issues identified through the public and agency involvement process.*
VIII. Maintain the rural and scenic character of the road.
** Key Issues for this project were identified as: Social Environment, Water Resources, Visual Quality, Recreational Resources, Plants and Animals, and Construction Impacts.*

traditional cultural properties. Water Resources include water quality, wetlands, riparian communities, and other waters of the U.S. Visual Quality includes views from the road and views of the road. Recreational Resources include recreational activities on FS lands, pedestrian activities, and cycling. Plants and Animals include threatened, endangered, and sensitive (TES) species of animals and plants as well as non-TES animal species. Construction Impacts include noise, vibration, traffic delays, congestion, and material hauling resulting from construction activity. Objective VII of this project is to avoid, minimize, or mitigate adverse impacts to the environment by considering these key issues identified through the public and agency involvement process.

Improvements under the build alternatives lie within the existing Guanella Pass Road corridor. Roadway realignments outside the existing road corridor were considered but eliminated from detailed consideration in the *Colorado Forest Highway 80, Guanella Pass Road, Final Environmental Impact Statement* (FHWA 2002) (FEIS). Six alternatives were analyzed in detail in the FEIS for the Guanella Pass Road project. Each of the alternatives includes improvements to the horizontal and vertical alignment, drainage, structural stability, small-stream crossings, road width, culverts, and roadside cut and fill slopes. Improvements to the roadway width include widening the road where necessary to create a consistent width and to provide a travel lane and shoulder in each direction. Parking areas along the road will be formalized with definitive boundaries. The roadway will be resurfaced. Major construction items will include excavation of material sources, clearing and grading, slope and subgrade stabilization, drainage improvements, retaining walls, revegetation, placement of crushed aggregate base and driving surface, parking area and walkway construction, signs, striping, guardrail, and other safety related features necessary to meet current design practice. Maintenance of the road is and will continue to be the responsibility of the counties and the Town of Georgetown. All construction items will conform to the Americans with Disabilities Act (ADA).

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II. Project History

A. PROJECT DEVELOPMENT

The development of this Guanella Pass Road project began approximately 15 years ago, when Clear Creek County officials began seeking federal funding assistance for improving the road's condition and began attending the annual Forest Highway Program meetings in 1987. Park County became involved in the process in 1990. Through those meetings the two counties requested that the Guanella Pass Road receive consideration for improvements under the Forest Highway Program.

The Forest Highway Program provides federal funding for capital improvements of a special category of public roads that directly serve National Forest lands nationwide. This roadway system is designated as the Forest Highway road system. A three-agency group known as the Program Agencies administers the Forest Highway (FH) Program. The function of the Program Agencies is to maintain the FH Program and to make major decisions concerning projects in the program. The Program Agencies in Colorado are the FHWA, the FS, and the CDOT. The three Program Agencies share the stewardship responsibilities for the Forest Highway road system and accountability for the program accomplishment. Highways designated for reconstruction and rehabilitation under the FH Program are selected at an annual Program Agency meeting. The routes selected are those that serve both the National Forests and the State (or Counties where appropriate) and have the greatest need for improvement. Forest Highway Program meetings are held annually to review the program accomplishment, current project status, and to assign priorities for use of anticipated future allocations of the federal funding.

Although federal funds are used for the projects, the maintenance and control of the roads as well as the joint approval of the project details remain with the FS and the State or local entity having jurisdiction - in this case Clear Creek County, Park County, and the Town of Georgetown. The annual program meetings have involved the Program Agencies as well as Clear Creek County, Park County, and the Town of Georgetown.

Guanella Pass Road was recommended for reconnaissance and scoping at the March 1992 FH Program meeting. Initial field reconnaissance studies were conducted with representatives from the Program Agencies, Clear Creek County, and Park County to assess the condition of the road and identify needed improvements. Guanella Pass Road was approved for Forest Highway funding in 1993 after an evaluation of the *Reconnaissance and Scoping Report* (FHWA 1993), the FS's transportation needs, and a presentation by the Town of Georgetown, Clear Creek County, and Park County in support of improvements to Guanella Pass. Due to the complexity of the project, a seven-year development time was anticipated and the route was tentatively programmed for construction funding beginning in 2000.

A Social, Economic, and Environment (SEE) Study Team was established to aid in the coordination and project development. The SEE Team is composed of one or more members from each of the Program Agencies. The function of the SEE Team is to guide the proposal through the project development process and to provide a point of contact within each agency through which other disciplines and individuals may be accessed. Coordination included interagency meetings, field reviews, and correspondence.

B. PROJECT SCOPING

The *Reconnaissance and Scoping Report* (FHWA 1993) recommended a 7.8-meter (26-foot) roadway width and reconstruction of the entire route. This was followed by meetings and correspondence with the cooperating agencies and the public as follows:

- Interagency scoping meetings were held in late 1993 to discuss the proposal with other government agencies.
- Public scoping meetings were held in early 1994 in Shawnee and Georgetown.
- A newsletter was mailed to the public in May 1994.
- Public scoping workshops were held in early 1995 in Georgetown and Shawnee.
- Additional interagency meetings were held in the spring and summer of 1995.
- A second newsletter was mailed in July 1995.
- In August 1995, options for the Georgetown terminus were discussed in meetings attended by the Georgetown Planning Commission, Georgetown Board of Selectmen, and the Clear Creek County Commissioners.
- Additional public information meetings were held in Georgetown and Shawnee in July 1996.
- An interagency meeting with the Georgetown Planning Commission was held in the fall of 1996.

C. DRAFT ENVIRONMENTAL IMPACT STATEMENT

The FHWA released the *Colorado Forest Highway 80, Guanella Pass Road, Draft Environmental Impact Statement* (FHWA 1999) (DEIS) in June 1999, with the comment period originally scheduled to end August 30, 1999. The DEIS identified a No-Action Alternative and four build alternatives as potential solutions to the need for road improvements. Public, agency, and local government comments were received in the following ways:

- Public hearings were held on August 3, 4, and 5, 1999, to receive public input on the DEIS.
- At the request of the public and congressional representatives, the comment period for the document was extended to October 15, 1999.
- A series of additional public meetings, sponsored by Clear Creek County and Park County, were held in September 1999 to obtain comments on the DEIS.
- Approximately 890 comments were received during the DEIS comment period. The comments received include written comments, e-mails, form letters, telephone conversations, petition signatures, and verbal comments recorded at the public hearings.

D. DEVELOPMENT OF NEW ALTERNATIVE – SUPPLEMENTAL DEIS

During the comment period for the DEIS, several major concerns were identified, resulting in the decision to develop a new alternative. The majority of commenters agreed with the need for repair of the road, but not to the extent described by the build alternatives in the DEIS. The commenters indicated that a new alternative should be developed that emphasizes rehabilitation or minimal improvements to Guanella Pass Road.

A new alternative was developed by the FHWA in cooperation with Clear Creek County, the Town of Georgetown, Park County, the FS, and the CDOT. These agencies participated in numerous work group sessions to coordinate a response to public comments and develop a new alternative for public consideration. The work group sessions focused on addressing the major issues identified during a review of the DEIS comments. These work group sessions were held from February through May 2000 and were open to the public for observation. The work groups addressed major issues that were identified in the public and agency comments on the DEIS. The major issues pointed to the need for the development of a new alternative that is more sensitive to the environmental setting and the rustic and rural character of the road than the DEIS build alternatives.

The new alternative, Alternative 6, was presented in the *Colorado Forest Highway 80, Guanella Pass Road, Supplemental Draft Environmental Impact Statement* (FHWA 2001) (SDEIS) released to the public in November 2000 with the comment period ending January 16, 2001. Alternative 6 includes a change in the functional classification of the roadway from a rural collector road, as proposed in the DEIS, to a rural local road. The change in functional classification allows a lower design speed with sharper roadway curves and a narrower roadway width than the DEIS build alternatives. In addition, a smaller design vehicle is used which allows a sharper switchback curvature. Each of these changes in the design criteria allows Alternative 6 to follow more closely the existing roadway. Alternative 6 includes additional management responsibilities for Clear Creek County, Park County, and the Town of Georgetown. In the SDEIS, Alternative 6 divides the road into 36 segments in a combination of surface types and extent of construction (rehabilitation, light reconstruction, and full reconstruction). The rehabilitation sections constitute 64 percent of the roadway, light reconstruction 18 percent, and full reconstruction 18 percent.

Other issues discussed in the SDEIS that were not specific to Alternative 6 included the potential for winter closure of Guanella Pass Road, alternative surface types for both paved and gravel road sections, retaining wall design and materials, drainage structures, and guardrail design and materials. These issues apply to Alternatives 2-5 as well as Alternative 6.

The FHWA, in conjunction with the cooperating and local agencies, held public hearings to present the new alternative and to receive public comments on December 4, 2000 (in Bailey), December 5 and 7, 2000 (in Georgetown), and December 6, 2000 (in Lakewood). The hearings consisted of presentations made by FHWA personnel and members of the cooperating and local agencies, followed by a comment/question and answer session involving the audience.

Again, at the request of the public and congressional representatives, the FHWA extended the comment period to February 2, 2001. The FHWA received approximately 810 comments during the SDEIS comment period. The comments received include written comments, e-mails, form letters, telephone conversations, petition signatures, and verbal comments recorded at the public hearings.

E. ALTERNATIVE SURFACE TEST STRIPS

Guanella Pass Road currently consists of several stretches of road with gravel surfaces. These gravel sections require frequent maintenance and, thus, are more costly over the life cycle of the road than the paved sections. The increased sedimentation into nearby streams and wetlands resulting from these gravel sections is also of concern. The FHWA considered several alternative surface options as part of the Guanella Pass Road Improvement Project in an effort to provide a low-maintenance, durable roadway that reduces sedimentation resulting from the roadway surface while retaining the road's current rustic character.

As part of the continuing effort to address public concerns regarding maintaining the rustic character of the road, while at the same time addressing the Counties' and FS's maintenance and water quality concerns, the FHWA constructed road surfacing test strips on Guanella Pass Road south of the Cabin Creek hydroelectric power plant. Construction of the test strips was completed on August 9, 2001. The purpose of the test strip construction was to provide the agencies and the public the opportunity to experience the look and feel of the five different alternative surface types being considered for use on most of the existing gravel portions of the road. The five alternative surface types demonstrated were a PennzSuppress D/magnesium chloride combination, macadam, Road Oyl, Perma-Zyme, and recycled asphalt. In addition to the five alternatives to gravel, an asphalt pavement with chip seal test strip was constructed as a possible alternative to plain asphalt pavement. This surface is being considered for use on the paved sections of the road. Roadway users were asked to complete a comment sheet indicating their preferred surface type and any additional comments they had.

One hundred and one comment sheets were received during the official test strip survey period, which ended on October 15, 2001. The results show that the most popular test strip surface was the asphalt with chip seal overlay treatment, which was indicated as preferred by 28 respondents. Of the gravel alternative test strips, the PennzSuppress D/magnesium chloride and the recycled asphalt surfaces were preferred by 22 respondents each.

F. FINAL ENVIRONMENTAL IMPACT STATEMENT

The majority of the comments received on the SDEIS requested the FHWA to consider further reducing the scope of the project to further minimize environmental impacts and reduce projected traffic increases. Based on these comments, the FHWA again revisited its design standards to determine if there was any way to reduce them further. The FHWA determined that no further reduction in design standards can be made without undermining the FHWA's stewardship responsibilities described in the Code of Federal Regulations (CFR) at 23 CFR part 625.2 which states that the FHWA will " . . . provide for a facility that will (1) Adequately serve the existing and planned future traffic of the highway in a manner that is conducive to safety, durability and economy of maintenance; and (2) Be designed and constructed in accordance with criteria best suited to accomplish the objectives described in paragraph (a)(1) of this section [above] and to conform with the particular needs of each locality."

Prior to the release of the FEIS, the FHWA held interagency meetings with the FS, Clear Creek and Park Counties, and the Town of Georgetown to discuss the comments received on the SDEIS and the identification of a preferred alternative in the FEIS. The agencies provided their support to continue with the process and identify Alternative 6 as the preferred alternative in the FEIS.

Also, the counties and the FS agreed to identify macadam as the preferred alternative surface type for some portions of the road that are currently gravel and dirt.

The FHWA released the FEIS designating Alternative 6 as the preferred alternative on September 27, 2002. The FEIS version of Alternative 6 differs slightly from what is presented in the SDEIS. In the FEIS, Alternative 6 contains 38 segments to account for more variability in surface type. Also, Alternative 6 consists of approximately 63 percent rehabilitation, 18 percent light reconstruction and 19 percent full reconstruction. Based on requests from the public and congressional representatives, the FHWA agreed to delay publication of its decision by 30 days beyond the required period in order to provide the public and interested agencies ample opportunity to review the document and provide comments.

G. FOREST SERVICE ROADS ANALYSIS

The FS has completed a Roads Analysis for the Guanella Pass Road. Roads analysis is an integrated ecological, social, and economic approach to transportation planning that addresses both existing and potential future roads. The objective of roads analysis is to provide decision makers with critical information to develop road systems that are safe and responsive to public needs and desires, are affordable and efficiently managed, have minimal negative ecological effects on the land, and are in balance with available funding for needed management actions. The proposed Guanella Pass Road project is consistent with long-range Forest transportation needs.

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III. Alternatives Considered

Six alternatives are evaluated in the FEIS. Other alternatives and several realignment options were also considered in the DEIS and SDEIS, but, based on public and agency comment, were eliminated from further consideration in the FEIS. Information on the exact locations of the surface types in particular sections of the road can be found in Table 2. More details on the alternatives (including figures) are presented in **FEIS Chapter II: Alternatives**. The following alternatives were evaluated in the FEIS.

A. ALTERNATIVE 1: NO ACTION

Guanella Pass Road is left in its existing condition. The road width remains inconsistent, varying from 5.5 meters (18 feet) to 7.2 meters (24 feet). No improvements are made to existing drainage, surfacing, safety, slope stability, vegetation, or inconsistent geometry. Alternative 1 addresses Project Objective VIII and partially addresses Project Objective VII.

B. ALTERNATIVE 2: RECONSTRUCT AND PAVE

Guanella Pass Road is reconstructed and paved with asphalt along its entire length. The roadway alignment generally follows the existing alignment with horizontal and vertical improvements. The road is reconstructed and widened where necessary to achieve a consistent width of 7.2 meters (24 feet) to include one 3-meter (10 feet) lane and a 0.6-meter (2 feet) shoulder in each direction. Drainage, surfacing, safety, slope stability, vegetation, culvert, and small-stream crossing improvements are included.

Alternative 2 addresses Project Objectives I, II, III, IV, V, and VI, and partially addresses Project Objectives VII and VIII.

C. ALTERNATIVE 3: RECONSTRUCT TO EXISTING SURFACE TYPE

Guanella Pass Road is reconstructed and resurfaced to its existing surface type. Those portions of Guanella Pass Road that are currently paved are resurfaced with an asphalt surface and those portions of the road that are currently dirt/gravel are resurfaced with a gravel surface. The roadway alignment generally follows the existing alignment, with the same horizontal and vertical improvements as in Alternative 2. The road is reconstructed to a consistent width of 7.2 meters (24 feet) to include one 3-meter (10 feet) lane and a 0.6-meter (2 feet) shoulder in each direction. Drainage, surfacing, safety, slope stability, vegetation, culvert, and small-stream crossing improvements are included. Under Alternative 3, the road is reconstructed with 52 percent gravel surface and 48 percent paved.

Alternative 3 addresses Project Objectives I, II, III, V, and VI, and partially addresses Project Objectives IV, VII, and VIII.

D. ALTERNATIVE 4: PARTIALLY RECONSTRUCT AND PAVE

Four sections of Guanella Pass Road are reconstructed and paved with asphalt to the same standard as Alternative 2, with a consistent width of 7.2 meters (24 feet). Additional information

on the exact locations of the surface types in particular sections of the road can be found in Table 2. Drainage, surfacing, safety, slope stability, vegetation, culvert, and small-stream crossing improvements are included along the four sections. The remainder of the road is left unchanged. Under Alternative 4, 51 percent of the road is reconstructed and paved, 15 percent is left unchanged with a gravel surface, and 34 percent is left unchanged with a paved surface.

Alternative 4 partially addresses Project Objectives I, II, III, IV, V, VI, VII, and VIII.

E. ALTERNATIVE 5: PARTIALLY RECONSTRUCT AND PAVE/ PARTIALLY REHABILITATE

Guanella Pass Road is reconstructed and paved to a consistent width of 7.2 meters (24 feet) in the same manner and locations as Alternative 4, and the remainder of the route is rehabilitated. The rehabilitated sections receive the following improvements: a pavement overlay or gravel overlay consistent with the existing surface type, drainage improvements, and revegetation of existing barren slopes to the extent possible without changing the existing slope angle. The rehabilitated sections of Guanella Pass Road are not widened, but match the existing roadway widths. Under Alternative 5, 51 percent of the road is reconstructed and paved, 15 percent is rehabilitated with a gravel surface, and 34 percent is rehabilitated with asphalt pavement.

Alternative 5 addresses Project Objectives III, and partially addresses Project Objectives I, II, IV, V, VI, VII, and VIII.

F. ALTERNATIVE 6: THE PREFERRED ALTERNATIVE

Alternative 6 includes a change in the functional classification of the roadway from a rural collector road, as proposed for the other build alternatives, to a rural local road. The change in functional classification allows a lower design speed with sharper roadway curves and a narrower roadway width than what was proposed for the alternatives in the DEIS. The roadway is constructed to a consistent width of 6.6 meters (22 feet) to include travel lanes 2.7 meters (9 feet) wide and shoulders 0.6 meter (2 feet) wide. In addition, the new functional classification allows for the use of a smaller design vehicle, which enables the design of a roadway containing sharper switchback curvature. Each of these changes in the design criteria permits Alternative 6 to follow more closely the existing roadway. Road surface, safety, drainage, access control, slope stability, and revegetation improvements are proposed for inclusion in the roadway reconstruction and rehabilitation areas. Under Alternative 6, approximately 63 percent of the road is rehabilitated, 18 percent undergoes light reconstruction, and 19 percent undergoes full reconstruction.

Several alternative surface types have been proposed to replace the existing gravel surfacing for approximately 30 percent of the route. These surface types were evaluated in the FEIS, and macadam has been selected as the preferred surface.

For Alternative 6, the current paved sections of the road will be resurfaced using asphalt pavement with chip seal. Most of the current gravel or dirt sections will have either a gravel/dust suppressant surface or a macadam surface. There is one current gravel section where paving with an asphalt pavement with chip seal is proposed at the request of the road maintaining agency, Park County: the section of road 3.0 kilometers (1.8 miles) long near the Park County and Clear Creek County line (Shelf Road - Stations 16+140 to 19+140). A gravel section in Park

County between Stations 1+770 and 5+500 (3.7 kilometers [2.3 miles] long) and another gravel section in Clear Creek County between Stations 22+450 and 30+220 (7.8 kilometers [4.8 miles] long) will be surfaced with macadam at the request of the maintaining agencies (the Counties) and the FS to reduce costs associated with maintenance of the road and to reduce sedimentation and gravel runoff into the wetland ecosystems. Additional information on the exact locations of the surface types in particular sections of the road can be found in Table 2.

Alternative 6 was selected as the preferred alternative in the FEIS based on environmental studies and consultation with the public, Town of Georgetown, Clear Creek and Park County Commissioners, State of Colorado, FS, United States Fish and Wildlife Service (USFWS), United States Army Corps of Engineers (USACE), Environmental Protection Agency (EPA), and local tribes. This alternative best balances efforts to address the Purpose and Need for the action while at the same time minimizing social, economic, and environmental impacts. Alternative 6 addresses Project Objectives I, and III and partially addresses Project Objectives II, IV, VI, V, VII, and VIII.

Table 2
*Identification of Proposed Improvements**

Segment	Station	Length km (mi.)	Existing	Alternative 1 – No Action	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6
Grant	1+000 to 1+770	0.77 (0.48)	Paved	No Action	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	No Action	*Rehabilitate & Pave*	*Rehabilitate & Pave*
Geneva Canyon A	1+770 to 5+500	3.73 (2.32)	Gravel	No Action	**Full Reconstruct & Pave**	**Full Reconstruct with Gravel**	No Action	*Rehabilitate with Gravel*	*Rehabilitate with Macadam*
Geneva Canyon B	5+500 to 7+000	1.50 (0.93)	Gravel	No Action	**Full Reconstruct & Pave**	**Full Reconstruct with Gravel**	No Action	*Rehabilitate with Gravel*	*Rehabilitate with Gravel*
Falls Hill A	7+000 to 7+500	0.50 (0.31)	Gravel	No Action	**Full Reconstruct & Pave**	**Full Reconstruct with Gravel**	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	*Rehabilitate with Gravel*
Falls Hill B	7+500 to 8+100	0.60 (0.37)	Paved	No Action	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	*Rehabilitate & Pave*
Falls Hill C	8+100 to 9+380	1.28 (0.80)	Paved	No Action	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**
Geneva Park	9+380 to 16+140	6.76 (4.20)	Paved	No Action	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	No Action	*Rehabilitate & Pave*	*Rehabilitate & Pave*
Shelf Road – Park Co.	16+140 to 17+800	1.66 (1.03)	Gravel	No Action	**Full Reconstruct & Pave**	**Full Reconstruct with Gravel**	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**
Shelf Road – Clear Creek Co.	17+800 to 19+140	1.34 (0.83)	Gravel	No Action	**Full Reconstruct & Pave**	**Full Reconstruct with Gravel**	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**
Duck Lake A	19+140 to 19+440	0.30 (0.19)	Gravel	No Action	**Full Reconstruct & Pave**	**Full Reconstruct with Gravel**	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	*Rehabilitate with Gravel*
Duck Lake B	19+440 to 19+530	0.09 (0.06)	Gravel	No Action	**Full Reconstruct & Pave**	**Full Reconstruct with Gravel**	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	**Full Reconstruct with Gravel**
Duck Lake C	19+530 to 20+080	0.55 (0.34)	Gravel	No Action	**Full Reconstruct & Pave**	**Full Reconstruct with Gravel**	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	*Rehabilitate with Gravel*
Above Duck Lake	20+080 to 20+480	0.40 (0.25)	Gravel	No Action	**Full Reconstruct & Pave**	**Full Reconstruct with Gravel**	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	**Light Reconstruct with Gravel**
Above Duck Lake to Pass	20+480 to 21+870	1.39 (0.86)	Gravel	No Action	**Full Reconstruct & Pave**	**Full Reconstruct with Gravel**	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	*Rehabilitate with Gravel*
Pass to Upper Switchbacks	21+870 to 22+450	0.58 (0.36)	Gravel	No Action	**Full Reconstruct & Pave**	**Full Reconstruct with Gravel**	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	*Rehabilitate with Gravel*
Upper Switchbacks	22+450 to 24+180	1.73 (1.08)	Gravel	No Action	**Full Reconstruct & Pave**	**Full Reconstruct with Gravel**	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	**Light Reconstruct with Macadam**

Segment	Station	Length km (mi.)	Existing	Alternative 1 – No Action	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6
Upper Clear Creek	24+180 to 24+480	0.30 (0.19)	Gravel	No Action	**Full Reconstruct & Pave**	**Full Reconstruct with Gravel**	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	*Rehabilitate with Macadam*
Naylor Creek	24+480 to 25+360	0.88 (0.55)	Gravel	No Action	**Full Reconstruct & Pave**	**Full Reconstruct with Gravel**	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	**Full Reconstruct with Macadam**
South Clear Creek A	25+360 to 25+700	0.34 (0.21)	Gravel	No Action	**Full Reconstruct & Pave**	**Full Reconstruct with Gravel**	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	*Rehabilitate with Macadam*
South Clear Creek B	25+700 to 27+560	1.86 (1.16)	Gravel	No Action	**Full Reconstruct & Pave**	**Full Reconstruct with Gravel**	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	**Full Reconstruct with Macadam**
South Clear Creek C	27+560 to 28+140	0.58 (0.36)	Gravel	No Action	**Full Reconstruct & Pave**	**Full Reconstruct with Gravel**	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	*Rehabilitate with Macadam*
South Clear Creek D	28+140 to 29+400	1.26 (0.78)	Gravel	No Action	**Full Reconstruct & Pave**	**Full Reconstruct with Gravel**	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	**Light Reconstruct with Macadam**
South Clear Creek E	29+400 to 29+700	0.30 (0.19)	Gravel	No Action	**Full Reconstruct & Pave**	**Full Reconstruct with Gravel**	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	*Rehabilitate with Macadam*
South Clear Creek F	29+700 to 30+220	0.52 (0.32)	Gravel	No Action	**Full Reconstruct & Pave**	**Full Reconstruct with Gravel**	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	**Light Reconstruct with Macadam**
Cabin Creek	30+220 to 32+260	2.04 (1.27)	Paved	No Action	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	No Action	*Rehabilitate & Pave*	*Rehabilitate & Pave*
Clear Lake	32+260 to 32+400	0.14 (0.09)	Paved	No Action	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	No Action	*Rehabilitate & Pave*	**Light Reconstruct & Pave**
Green Lake	32+400 to 33+580	1.18 (0.73)	Paved	No Action	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	No Action	*Rehabilitate & Pave*	*Rehabilitate & Pave*
Switchbacks	33+580 to 34+300	0.72 (0.45)	Paved	No Action	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	No Action	*Rehabilitate & Pave*	**Light Reconstruct & Pave**
South Clear Creek	34+300 to 34+680	0.38 (0.24)	Paved	No Action	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	*Rehabilitate & Pave*
Waldorf Road	34+680 to 34+920	0.24 (0.15)	Paved	No Action	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	**Light Reconstruct & Pave**
Silverdale A	34+920 to 36+320	1.40 (0.87)	Paved	No Action	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	No Action	*Rehabilitate & Pave*	*Rehabilitate & Pave*

Segment	Station	Length km (mi.)	Existing	Alternative 1 – No Action	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6
Silverdale B	36+320 to 36+600	0.28 (0.17)	Paved	No Action	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	No Action	*Rehabilitate & Pave*	**Light Reconstruct & Pave**
Silverdale C	36+600 to 37+200	0.60 (0.37)	Paved	No Action	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	No Action	*Rehabilitate & Pave*	*Rehabilitate & Pave*
Georgetown Switchbacks A	37+200 to 38+060	0.86 (0.53)	Paved	No Action	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	**Light Reconstruct & Pave**
Georgetown Switchbacks B	38+060 to 38+300	0.24 (0.15)	Paved	No Action	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	*Rehabilitate & Pave*
Georgetown Switchbacks C	38+300 to 38+640	0.34 (0.21)	Paved	No Action	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	**Light Reconstruct & Pave**
Georgetown Switchbacks D	38+640 to 38+800	0.16 (0.10)	Paved	No Action	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	*Rehabilitate & Pave*
Georgetown Switchbacks E	38+800 to 39+200	0.40 (0.25)	Paved	No Action	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	**Full Reconstruct & Pave**	**Light Reconstruct & Pave**

* The information provided in this table may be subject to minor modification as the final design is further developed. All paved sections will be surfaced with a chip seal over the asphalt pavement. All gravel sections will be treated with a dust suppressant.
FONT KEY: Red = Gravel with a dust suppressant; Blue = Macadam; Black = Paved with a chip seal overlay; *Italics = Rehabilitate*; **Bold = Reconstruct**

IV. Environmentally Preferred Alternative

The environmentally preferred alternative is Alternative 6. Of the alternatives that address the Purpose and Need for the proposal (either fully or partially), this is the alternative that causes the least damage to the biological and physical environment. See Table 3 for a summary of environmental impacts.

V. Decision and Basis

The alternative selected for this project is Alternative 6. Alternative 6 includes a combination of rehabilitation, light reconstruction, and full reconstruction with three types of surfacing depending on location. The three types of surfacing include asphalt with chip seal, gravel with magnesium chloride, and macadam.

Alternative 6 has been selected because it best balances the transportation and maintenance needs with the sensitive nature of the environment. Although another alternative may more fully address one or more of the individual project objectives listed in Table 1, this is generally at the expense of another objective. Alternative 6 provides the best overall balance of any of the alternatives by ensuring that each objective is at least partially addressed to a minimum level of satisfaction.

For each project need, the following is a discussion of the basis for selection of Alternative 6.

Project Objective I. Provide a Roadway Width and Surface Capable of Accommodating Anticipated 2025 Traffic Volumes: In its current condition, Guanella Pass Road does not safely accommodate current traffic volumes and types. The anticipated increase in year 2025 traffic volumes over the 1995 volumes for Guanella Pass Road range from a 56 percent increase for Alternative 1 to between 88 and183 percent depending on the build alternative.

As a result, with a projected increase of 56 percent increase by 2025, Alternative 1 would not accommodate these anticipated volumes. Improvements proposed for Alternatives 2 through 5 are based on minimum design standards for a rural collector road, and include a roadway width of 24 feet. Alternatives 2 and 3 are expected to fully accommodate the projected year 2025 traffic volumes and vehicle types anticipated for these alternatives. Only the sections of Alternatives 4 and 5 that are proposed for reconstruction are expected to accommodate projected year 2025 traffic volumes and vehicle types. The unimproved sections in Alternative 4 (49 percent) and the rehabilitation sections of Alternative 5 (49 percent) would not accommodate such volumes and traffic types.

Alternative 6 is based on minimum design standards for a rural local road, and includes a roadway width of 22 feet, and shorter design vehicle, and other features more suitable to a road that is intended primarily to provide access to lands adjacent to the road. Although rehabilitation is proposed for 63 percent of Alternative 6, it will be able to meet this project objective at least as well as Alternatives 4 or 5 because the projected year 2025 traffic volumes for Alternative 6 are expected to be the least of all the build alternatives. While the design of the roadway and adjacent facilities is expected to help regulate traffic volumes and vehicle size, the cooperation of the FS, Clear Creek County, Park County, and the Town of Georgetown may also be needed to manage the vehicle size allowed on Guanella Pass road, restrict commercial truck traffic, and

manage the corridor land use in conformance with the rural local road classification and design of Alternative 6.

Project Objective II. Improve Safety by Providing Consistent Roadway Geometry and Providing Reasonable Protection from Unsafe Conditions: Alternative 1 perpetuates the existing safety hazards associated with poor sight-distance and roadway geometry, and varying roadway width. All five of the build alternatives will address this need, though to varying degrees.

Alternatives 2 and 3 address this need to the greatest extent by reconstructing the entire length of the road, widening the road to a consistent width of 24 feet and employing consistent design geometry, improving sight-distance, eliminating or reducing ice flows and other problems related to poor drainage, installing guardrail, and providing vehicle pullouts. Alternatives 4 and 5 would be less effective at meeting this objective. Alternatives 4 and 5 would reconstruct 51 percent of the road to the same standards as that of Alternatives 2 and 3. The remaining 49 percent would either remain unchanged (Alternative 4) or be rehabilitated to the existing width (Alternative 5). In these sections safety hazards associated with poor sight-distance, roadway geometry, and varying roadway width would remain. Alternative 6 will partially improve the safety of the roadway.

Alternative 6 will meet this objective better than Alternatives 4 or 5 because it will provide a consistent roadway width of 22 feet. The reconstruction sections (18 percent light and 19 percent full reconstruction) will provide consistent geometry, improved sight distances, and fully address drainage problems. The rehabilitation sections (63 percent of the road) in Alternative 6 will partially address the drainage and ice flow problems and, where possible, safety concerns related to poor sight distance, roadway geometry, and roadside hazards.

Project Objective III. Accommodate and Control Access to Forest Service Facilities Located along the Road: Alternative 1 would not improve or better control access to FS facilities. Alternatives 2, 3, 5, and 6, and the build sections of Alternative 4 all would accommodate and control access to the FS facilities located along the road. Parking areas would be formalized, and parking and dispersed camping outside of designated areas will be discouraged with earthwork grading, boulder placement, guardrails, signs, and other techniques. The no action portions (49 percent) of Alternative 4 would not address this project objective.

Project Objective IV. Reduce the Anticipated Maintenance Costs to the Counties and Town Maintaining the Road: Alternative 1 will require the Counties to spend an increasing amount of time and money for maintenance as traffic volumes increase and the roadway continues to age. All five of the build alternatives would reduce anticipated maintenance from what is expected if nothing is done to the road. The degree to which each alternative would reduce maintenance effort depends on the amount of reconstruction and pavement included in that alternative. As the amount of asphalt pavement and full reconstruction increases, the projected cost of maintenance over the next twenty years decreases. Alternative 2 would have the least projected maintenance costs, followed by (in order) Alternatives 5 and 6, Alternative 4, Alternative 3, and Alternative 1.

Project Objective V. Repair Roadway Drainage Problems: Under Alternative 1, no drainage repairs would be made, except through maintenance practices by the Counties. Alternatives 2

Table 3
Summary of Environmental Impacts

	Alternative 1 (No-Action)	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6 (Selected Alternative)
Amount of Reconstruction, Rehabilitation, and Paving	0% reconstruction 0% rehabilitation 48% paved 52% dirt/gravel	100% full reconstruction 0% rehabilitation 100% paved 0% gravel	100% full reconstruction 0% rehabilitation 48% paved 52% gravel	51% full reconstruction 0% rehabilitation 86% paved 14% dirt/gravel	51% full reconstruction 49% rehabilitation 86% paved 14% gravel	37% reconstruction (18% light, 19% full) 63% rehabilitation 56% paved, 14% gravel 30% alternative surface type (macadam preferred)
1. Social Environment						
Community Character	Anticipated change in community character directly proportional to the increase in traffic volume. Traffic will increase with or without the road project, although traffic will increase more under the build alternatives. See Traffic Volume section below.					
Roadway Width (includes travel lanes and shoulders)	5.5-7.2 meters (18-24 feet)	7.2 meters (24 feet)	7.2 meters (24 feet)	Reconstructed areas: 7.2 meters (24 feet) No-Action Areas: 5.5-7.2 meters (18-24 feet)	Reconstructed areas: 7.2 meters (24 feet) Rehabilitated Areas: At least 7.2 meters (24 feet)	6.6 meters (22 feet)
Traffic Volume	56% increase over 1995 traffic volume at the summit in 2025.	40-80% increase over year 2025 No-Action traffic volumes at the summit.	35% increase over year 2025 No-Action traffic volumes at the summit.	40-80% increase over year 2025 No-Action traffic volumes at the summit.	40-80% increase over year 2025 No-Action traffic volumes at the summit.	20% increase over year 2025 No-Action traffic volumes at the summit.
Population and Demographics	No impact anticipated for any of the alternatives.					
Local Economy	Potential enhancements to the local economies such as increased taxable retail sales, increased employment, expanded recreational services, and more year-round visitor activity. Enhancement proportional to increase in traffic volume. See Traffic Volume section above.					
Land Use and Consistency with Local Plans	No impact.	An increase in demand for services such as food and gas is expected, and may lead to changes in land use development. Improved access to private land resulting from alternatives may encourage development.				Residential and commercial land use development and local plan management will need to be monitored by the local agencies to maintain the road's functional classification as a rural local road.
Cultural Resources	No impact.	No direct impacts to the cultural resources are anticipated for any build alternative. Adverse effect to the visual quality of the Georgetown-Silver Plume National Historic Landmark District (GSPNHLD).				No direct impacts to the cultural resources are anticipated for any build alternative. Alternative 6 will have an adverse effect on the visual quality of the GSPNHLD. However, the impact is to a lesser extent than Alternatives 2-5, because Alternative 6 consists of a narrower roadway width.
Traditional Cultural Properties	No impact anticipated.					
2. Water Resources						
Water Quality	Continued sedimentation impact to existing water resources.	Will improve existing conditions that degrade water quality, such as eroding roadway ditches, shoulders, and embankments. Impacts to water quality are proportional to the amount of hardened surfacing, opportunity to correct existing erosion problems, and potential erosion from new disturbance. Alternative 2 provides the most effective remedy of the build alternatives, followed by Alternative 6 and then by Alternatives 5, 4, then 3. See **FEIS Table III-9** – Comparison of Alternatives by Water Quality-Related Roadway Characteristics for more information on water quality related characteristics.				
Wetland and Riparian	Continued sedimentation impact to existing wetlands.	Drainage improvements to the roadway are expected to enhance wetland areas by controlling sedimentation, runoff, and erosion potential. The amount of positive impact is proportional to the amount of sediment reduction as described above.				
Total Direct Wetland Impact hectares (acres)	Not quantified, but continued impacts occur due to sedimentation and maintenance activities on gravel portions of road.	2.96 (7.32)	2.96 (7.32)	0.76 (1.87)	0.76 (1.87)	0.28 (0.71)

Table 3
Summary of Environmental Impacts

	Alternative 1 (No-Action)	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6 (Selected Alternative)
3. Visual Quality						
Visual	No change from the existing visual character. Dusty conditions along the gravel sections continue to lower the visual quality. Unvegetated slopes are not repaired.	Changes to visual character are proportional to the amount of widening and the amount of reconstruction. See the Amount of Reconstruction, Rehabilitation, and Paving section above. Changes to visual character expected from the minor realignments for all build alternatives. The changes in visual character are related to the view from the road for the driver and also the view of the road. Retaining walls used to stabilize slopes for Alternatives 2-5 will detract from the visual quality of the roadway.				The amount of roadway widening under Alternative 6 is less than Alternatives 2-5. The narrower roadway width for Alternative 6 reduces the amount of retaining wall needed, and therefore reduces the impact of retaining wall on the visual character of the road. The reclassification of the road to a rural local road, the lower design speed, and the new design vehicle allow Alternative 6 to more closely follow the existing alignment. These design changes allow Alternative 6 to maintain more of the existing rustic character of the road. The visual impact from the minor realignments is less for Alternative 6 because of the reduced cross section. Alternative 6 provides the greatest amount of rehabilitation of the build alternatives and better maintains the character of the road.
		Unvegetated slopes are repaired, enhancing the visual quality of the roadway corridor. High traffic volumes on gravel roads result in very dusty conditions, thus lowering the visual quality along the roadway. The extent to which dust becomes a factor is dependent on the amount of reconstruction, rehabilitation, and paving, and the increase in traffic for each alternative. Alternative surface types for gravel sections of the road will help to reduce air-borne dust and retain some of the rustic character of the road. In addition, a coarse chip seal will be used to give the paved sections a more rustic character. See **FEIS Chapter II.B.6a**: **Surfacing Options** for more information. Retaining wall, slope treatment, and guardrail designs will be incorporated into all build alternatives with the intent of maintaining the rustic character of the roadway. See **FEIS Chapter II.G.1: Retaining Wall Design and Slope Treatments and II.G.3: Guardrail Design and Materials** for more information.				
4. Recreational Resources						
Recreational Activities	Recreational use is expected to increase proportional to the increase in traffic volume. See Traffic Volume section above. Increased recreational use creates more pressure for dispersed use of the forests. A detrimental impact on the recreational experience for some users may occur as a result of more users. Increased recreational use increases the need for parking in Georgetown and along the road.					
Pedestrian and Bicyclists	No changes made to improve the existing conditions. Dust, narrow road width, poor sight distance, and increasing traffic will continue to adversely affect pedestrians and bicyclists.	Improved sight distance and additional roadway width along the reconstructed sections of the road improves safety for pedestrians and bicyclists. Dust reduction is directly proportional to the increased length of paved sections. Pedestrians and bicyclists may be negatively impacted due to the increase in traffic volumes for each alternative. See Traffic Volume section above.				Alternative 6 traffic volumes will be less than Alternatives 2-5. See Traffic Volume section above. The roadway width is narrower than Alternatives 2-5, and this may make it more difficult to share the road with pedestrians and bicyclists. Dust levels will remain high on the gravel portions of the roadway, but this can be reduced by dust suppressants.
5. Plants and Animals						
Wildlife – Direct Effects (proportional to habitat loss)	No impact.	Full reconstruction alternatives would have the most impact.		Alternatives 4 and 5 have about half as much reconstruction as, and therefore less impact than, Alternatives 2 and 3.		Alternative 6 has less reconstruction than Alternatives 2-5, and therefore the least amount of impact.
Wildlife – Indirect Effects (proportional to traffic volume and speed)	Least impact.	Most impact.	Less effect than Alternatives 2, 4, or 5.	Impact similar to Alternative 2.		Less impact than Alternatives 2-5 due to lower traffic volume and lower speed, and therefore the least amount of impact.
Total Boreal Toad Habitat Disturbance hectares (acres)	0 (0)	3.98 (9.7)	3.98 (9.7)	2.13 (5.22)	2.13 (5.22)	1.70 (4.18)
Canada Lynx Impacts	Least impact.	Most impact.	Less effect than Alternatives 2, 4, or 5.	Impact similar to Alternative 2.		May affect, likely to adversely affect. Less impact than Alternatives 2-5 due to lower traffic volume and lower speed, and therefore the least amount of impact. The USFWS does not anticipate that Alternative 6 will result in mortality of individual lynx; however, it may result in the non-lethal take of one lynx.

Table 3
Summary of Environmental Impacts

	Alternative 1 (No-Action)	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6 (Selected Alternative)
Fish Habitat	No changes made to improve the existing conditions. Sedimentation problems continue.	Drainage improvements will greatly reduce sedimentation problems. Fish habitats are likely to improve after construction. However, pre-existing water quality issues will continue to pose a threat to the fish habitats. With the installation of natural bottom culverts, fish passage will improve after construction. Alternative 2 provides the most effective solution to improving the existing conditions, followed by Alternative 6 and then by Alternatives 5, 4, and 3. The impacts to fish habitat are proportional to the amount of hardened surfacing, opportunity to correct existing erosion problem areas, and potential erosion from new disturbance.				
6. Construction Impacts						
General Construction	Maintaining agencies will have to perform construction and/or repair activities above and beyond normal maintenance periodically as the road continues to deteriorate.	Construction impacts such as increased traffic delays, construction noise, and habitat disruption are the same for Alternatives 2 and 3. Construction impacts are less for Alternative 5 and Alternative 4 due to the decreased amount of reconstruction associated with these alternatives. Alternative 6 has the least impact because it has the least reconstruction. Haul loads through the project area are proportional to the amount of reconstruction proposed for each of the build alternatives. Road damage along haul routes is expected for all of the build alternatives. Traffic delays are expected for each of the build alternatives.				
Construction Cost (2002 dollars)	$0 (Does not include County construction costs to maintain the road as it continues to deteriorate.)	$46.1 million	$44.6 million	$29.2 million	$35.9 million	$28.9 million
7. Other Resources						
Air Quality	No change from the existing air quality conditions. Dust in gravel sections continues to impact air quality.	Dust is reduced directly proportional to the increased length of hardened surfacing (pavement or macadam), improving the air quality. See Amount of Reconstruction, Rehabilitation, and Paving section above. The greatest improvement is seen under Alternative 2, followed by Alternatives 4, 5, and 6. No long-term improvements are seen under Alternative 3. Dust suppressants will help to decrease the air-borne dust problem on the gravel road sections of Alternatives 3-6.				
Noise (at projected year 2025 traffic volumes)	No residential noise impacts requiring noise abatement are expected. The decibel increase is associated with future projected traffic.					
	0-3 dB(A) increase over existing levels at 60 m (200 ft) from road.	3-5 dB(A) increase over existing levels at 60 m (200 ft) from road.	1-3 dB(A) increase over existing levels at 60 m (200 ft) from road.	3-5 dB(A) increase over existing levels at 60 m (200 ft) from road.	3-5 dB(A) increase over existing levels at 60 m (200 ft) from road.	1-3 dB(A) increase over existing levels at 60 m (200 ft) from road.
Hazardous Material	No impact.	Disturbance to hazardous material sites 3, 7-9, 12, and 13. Potential impacts to Equator tunnel and Silverdale/Ocean Wave tunnel. See **FEIS Chapter III.C.3: Hazardous Materials** for more detail.		Disturbance to hazardous material sites 12 and 13. See **FEIS Chapter III.C.3: Hazardous Materials** for more detail.	Disturbance to hazardous material sites 7-9, 12, and 13. See **FEIS Chapter III.C.3: Hazardous Materials** for more detail.	
Section 4(f) Impacts Hectares (acres)	0 (0)	0.13 (0.33)	0.13 (0.33)	0.01 (0.03)	0.03 (0.07)	0.03 (0.07)
Utilities	No impact.	Power poles and underground telephone lines would need to be moved under all build alternatives.				
Floodplain	No further impacts over current conditions anticipated.					
Farmlands	No impact anticipated.					
Environmental Justice	No impact anticipated.					
Services	The demand for local services, including police, fire, ambulance, search and rescue, and trash removal, is expected to increase proportional to the increase in traffic volume for each alternative.					
Relocation	No impact anticipated.					
Maintenance Cost (estimated over 20 years)	$9.3 million	$4.8 million	$7.5 million	$6.6 million	$5.9 million	$6.0 million
Secondary Impacts	Increased traffic will create a demand for commercial services such as restaurants, shopping, and gasoline, as well as for community services such as public restrooms and trash removal. The demand for parking in Georgetown will increase directly proportional to increased traffic volumes. The increased use of the road may reduce the perception of the corridor as a tranquil environment as private landowners develop properties for recreational or other uses.					

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and 3, which involve reconstruction for the entire length of the road, would fully address existing drainage problems with the reconstruction of ditches and the installation of additional culverts. Alternative 4 would address drainage problems along only those portions proposed for reconstruction; drainage problems along the no action portions would remain. Alternatives 5 and 6 would address drainage problems along the entire length of the road. However, in the rehabilitation segments (49 percent for Alternative 5 and 63 percent for Alternative 6), drainage repairs would be more limited than under Alternatives 2 or 3 because the roadside ditches will not be widened in the rehabilitation areas.

Project Objective VI. Repair Existing Unvegetated Slopes: The original construction of the road left a number of steep barren slopes that are eroding and contributing to stream sedimentation, and affecting the visual quality of the area.

Alternative 1 would not repair any of the existing unvegetated slopes. Alternatives 2 and 3, which involve full reconstruction, would rebuild all existing barren slopes within the project limits and contour the slopes to promote revegetation. Alternative 4 would repair existing unvegetated slopes only in those sections proposed for reconstruction (51 percent of the route). Alternatives 5 and 6 each contain sections of rehabilitation, where revegetation efforts are limited to work that can be done without reconstructing the slope. This amounts to 49 percent of Alternative 5 and 63 percent of Alternative 6. The slopes in the rehabilitation sections will be evaluated on a site-by-site basis with the cooperating agencies to determine where it is feasible to repair the slopes.

Project Objective VII. Avoid, Minimize, or Mitigate Adverse Impacts to the Environment by Considering Key Issues Identified through the Public and Agency Involvement Process: While Alternative 1 would create no new adverse impacts to the environment, it would perpetuate the existing problems of dust, erosion, and sedimentation from the existing road surface and cutslopes. Alternative 1 would also contribute to environmental degradation of the area by permitting dispersed recreation and overuse in sensitive areas. The build alternatives would to some degree control dispersed recreation and limit use by formalizing parking areas and creating barriers to prevent parking in sensitive areas.

For the build alternatives, avoiding or minimizing adverse impacts to the environment is a difficult task given that efforts done to avoid or minimize one environmental impact often creates another environmental impact elsewhere or it undermines the ability to meet the other needs for the project. For example, a portion of the existing road traverses riparian areas adjacent to South Clear Creek that probably were wetlands historically. A proposal to reroute the road out of the riparian and wetland areas was proposed but later dismissed because the new alignment would impact old growth forest.

Compared to the other build alternatives, Alternative 6 best addresses the key issues identified during the public and agency involvement process while at the same time addressing and balancing the other needs for the project. These key issues include the following: social environment, water resources, visual quality, recreational resources, plants and animals, and construction impacts. Compared to the other build alternatives, Alternative 6 has the least amount of full reconstruction and the greatest amount of rehabilitation. Though less work can be done to repair drainage and unvegetated slopes in rehabilitation sections, the benefit of performing rehabilitation is that it causes no new disturbance outside of the existing road prism. Because the design of Alternative 6 is based on classification of Guanella Pass Road as a rural

local road, the slower design speeds and shorter design vehicle allow Alternative 6 to most closely follow the existing footprint of the road. The reduced design also minimizes the need for cuts, fills, and retaining walls. While this reduced design will place additional burdens on the land management agencies to monitor and limit vehicle size as well as land use, the benefit of this reduced design is that it results in the least amount of direct impacts to species habitat and wetlands compared to any of the other alternatives. The appearance of Leavenworth Mountain, which is traversed by switchbacks and serves as the historical backdrop for Georgetown, remains visually similar. The minimal design of Alternative 6 also results in decreasing possible indirect impacts such as animal-vehicle conflicts and increased recreational use of the area. Of all of the build alternatives, Alternative 6 has the least amount of impacts to the natural and social environment while at the same time addressing and balancing the other needs for the project.

With respect to construction impacts, the FHWA has identified a number of measures that it will implement to minimize impacts resulting from construction activities. Material sources to provide aggregate for any of the build alternatives were identified along Guanella Pass Road. Use of these on-site material sources reduces the number of truck trips needed to travel through the communities of Grant and Georgetown by almost half compared to using an off-site materials source. Alternative 6 requires the least amount of truck trips of any of the build alternatives. A staging and batch plant site has also been identified along Guanella Pass Road to minimize disruption of the communities by construction hauling activities. A new bridge will be built in Georgetown to accommodate the construction traffic and roads in Georgetown that are impacted by construction hauling will be milled and resurfaced. Hauling schedules will be closely coordinated with the local communities and businesses.

Project Objective VIII. Maintain the Rural and Scenic Character of the Road: Maintaining the scenic and rural character of the road must be balanced with efforts to minimize impacts to the environment and with other needs for the project. For example, laying back slopes and hardening the road surface, as proposed in Alternative 2, maximizes success for revegetation, reduces to the greatest extent possible sedimentation into streams and vegetation communities, and minimizes the projected maintenance costs. However, such measures would alter the appearance and character of the road so that it may appear more like a parkway rather than a rustic road. Conversely, if gravel is used in the attempt to maintain the rustic backcountry nature of the road as proposed in Alternative 3, or the slopes are not laid back to preserve the intimate "closed-in" feel of the road, as proposed to some degree in Alternatives 4, 5, and 6 then sedimentation resulting from the steep unvegetated cutslopes and the road persists as does the high cost of maintenance. Alternative 6, with 63 percent rehabilitation and 37 percent reconstruction best balances all of the needs of the project while also maintaining the rural and scenic character of the road.

With respect to surface type, in order to maintain the rustic appearance of the road while addressing the other needs, Alternative 6 uses macadam along 30 percent of the road, and another 14 percent of the road remains gravel. Macadam is a surface type more durable than gravel but, because of its coarse surface, appears more rustic and provides a rougher ride than pavement.

Selection of Preferred Alternative Surface Type: The existing surface types along Guanella Pass Road consist of 48 percent pavement and 52 percent gravel/dirt. Under Alternative 6, at the request of the road-maintaining agency (Park County), an additional eight percent of the existing gravel/dirt portion (Shelf Road area) will be paved with a chip seal. For the remaining

gravel/dirt portions of the road, the Counties and the FS requested that the FHWA consider using a more stabilized surface type that would help reduce maintenance costs and reduce sedimentation into streams. Five alternative surface types were considered for the gravel/dirt sections, including magnesium chloride/PennzSuppress D, macadam, Road Oyl, Permazyme, and recycled asphalt. Asphalt pavement with a chip seal was also considered as an alternative surface type to plain asphalt pavement. Based on comments received on the 100-meter test strips constructed on Guanella Pass Road, research performed on maintenance requirements of the alternative surface types, input from the land management and road maintaining agencies, and concerns regarding the need to preserve the rustic appearance of the road, asphalt pavement with a chip seal was selected for the asphalt portions of Alternative 6, and a combination of macadam and gravel with magnesium chloride was selected for the gravel/dirt portions of the road. The asphalt pavement with a chip seal provides a more rustic appearance than just asphalt pavement and will be used on approximately 56 percent of the road.

Macadam will be used on portions of the road that are currently gravel/dirt that are either adjacent to streams or are in steep areas that quickly lose unstabilized gravel, except in the Shelf Road area as noted above and in six segments from approximately Station 19+140 to Station 22+450 which will have asphalt pavement with a chip seal surface. Although macadam is a hardened surface that uses an asphalt binder, it appears more rustic than pavement because of the coarser materials and method of construction. It also provides a rougher ride. Macadam requires less maintenance than any of the other alternative surface types for the gravel/dirt sections, and produces little sedimentation. Macadam is proposed for 30 percent of the project and, for the portions of the road where it will be used, it best balances the reduction of sedimentation with preserving the rustic and scenic character of the road and the other needs of the project. Pavement with a chip seal is proposed for another 56 percent. Gravel with magnesium chloride will be used for the remaining 14 percent of the road that is currently gravel and is relatively flat or distant from streams. In these sections of the road, gravel best balances the rustic character of the road with the other needs of the project, although it does require a high level of maintenance effort.

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VI. Measures to Minimize Harm

The FHWA is committed to the following measures to minimize harm for the proposed Guanella Pass Road project.

A. CULTURAL RESOURCES

Because Leavenworth Mountain is the backdrop to the historic setting of the Georgetown-Silver Plume National Historic Landmark District (GSPNHLD), it has been determined that any improvement of the switchbacks on the existing roadway will adversely affect the visual quality of the cultural landscape within the District. Proposed improvements will entail tree removal, cuts and fills, and retaining walls within the existing roadway construction limits. The FHWA has determined that there will be an adverse effect to the GSPNHLD under all build alternatives.

Measures to minimize harm for impacts to the visual quality of the cultural landscape on Leavenworth Mountain are the same measures listed in the Visual Quality section, below, and are included in a Memorandum of Agreement (MOA) among the FHWA, State Historic Preservation Officer (SHPO) and Georgetown (refer to **Section VI.E: Visual**, below, and **Appendix D**).

The Town of Grant (Site # 5PA403) is outside the project area of potential effect and the proposed project will not affect it. However, archeological monitoring of construction activities will be conducted along Guanella Pass Road in the vicinity of Grant to determine if there are subsurface archeological deposits that cannot be observed from the surface.

The proposed Guanella Pass parking area will not adversely impact site #5CC70, an open lithic scatter site. However, given its proximity to the proposed parking area, temporary barrier fencing will be erected between Site #5CC70 and the new parking area during construction operations.

B. TRADITIONAL CULTURAL PROPERTIES

Although no impacts to traditional cultural properties are anticipated, undocumented cultural sites could be encountered during construction. Impacts will be offset by the following measures to minimize harm developed through interviews with Native Americans.

If human remains, associated burial items, sacred items, or items of cultural patrimony (Native American Graves Protection and Repatriation Act [NAGPRA] items) are found on Federal lands during project activities, construction activities in those areas will be halted, and the Ute tribes will be consulted regarding treatment and disposition in accordance with guidelines set forth in the NAGPRA. Human burials will be avoided and not moved until consultation with the SHPO and tribes is complete. If a gravesite is discovered on private land, the local coroner and sheriff's department will be consulted before construction continues.

The FHWA will advise Native American contacts of the project construction schedule and allow interested individuals an opportunity to monitor project construction.

C. WATER QUALITY

Impacts to water quality will be mitigated with the following measures:

- Adequately sized and more frequently spaced culverts will be added to the road and existing culverts replaced to restore the natural stream channel and to prevent draining water from gathering momentum, thereby reducing erosion.

- Energy dissipaters will be used at culvert outlets.

- Where practical, culverts will be placed so that the outlet discharge is buffered by riparian zones/wetlands before reaching a stream.

- Permanent erosion control structures will be constructed where appropriate. Types of structures include check dams, settling basins, and sediment traps. Maintenance of these structures will be the responsibility of the road maintaining agencies, i.e., Clear Creek and Park Counties and Georgetown.

- Existing erosion problem areas will be repaired by resurfacing the roadway, improving drainage, and revegetating and stabilizing slopes.

- A revegetation plan will be developed and implemented for disturbed areas in coordination with the FS.

- Where the road encroaches into a stream, special treatments will be provided for controlling and directing sediment away from environmentally sensitive areas. The special treatments will include, as appropriate, sediment traps, berms, furrow ditches, seeding, matting, revegetation, insloping, and/or paved (armored) ditches. Design efforts will focus on providing improvements to areas designated as priority 1 or 2 by the FS in the report: *Sedimentation Problems Identified on the Guanella Pass Road, Aquatic and Soil Resource Recommendations* (Arapaho-Roosevelt National Forest 2001).

- Flatter slopes will be used where practical to promote revegetation.

- The Best Management Practices (BMPs) detailed in *Best Management Practices* (FHWA 1998) will be applied.

- Temporary erosion control measures such as settling basins, straw bales, silt fence and excelsior logs will be in place during construction to minimize erosion.

D. WETLAND AND RIPARIAN COMMUNITIES

Measures to minimize harm for wetland and riparian impacts will include:

- Avoiding wetlands to the greatest extent practical.

- Minimizing impacts to wetlands as final plans are developed and alignments are adjusted to reduce impacts, where practical.

- Storing equipment and construction materials away from wetland and riparian areas.

- Placing temporary fencing or barriers and enforcing regulations that prevent contractors from working outside established construction limits to protect wetlands and other areas such as sensitive plant and animal habitat from accidental construction equipment encroachment.

- A wetland mitigation plan will be prepared in coordination with the FS and the USACE. During a field review in coordination with the USACE and EPA, the old Geneva Basin Ski Area parking lot was found to be the most favorable potential site for wetland mitigation. This site will support a montane wetland/riparian complex similar to affected wetlands. Other sites will be considered as well, such as reclamation of wetlands where the road alignment is shifted to avoid two crossings of Duck Creek. Wetland banking is no longer being considered because mitigation near the roadway appears to be feasible.

Additional measures to minimize harm for wetland and riparian communities that protect them from sedimentation are included in the measures identified for water quality.

E. VISUAL

Guanella Pass Road is a designated Colorado Scenic and Historic Byway and a National Forest Scenic Byway. The selected alternative will not detract from the beauty of the Byway. To minimize visual impacts, the selected alternative for Guanella Pass Road will:

- Minimize tree removal.

- Use retaining walls in select locations to minimize cut and fill slopes. Where the walls will be clearly visible, the design materials used in the retaining walls will be natural-looking treatments such as concrete form liner or dry stacking of real stone to improve the visual quality of the roadway and will attempt to blend with the forest and adjacent natural materials.

- Minimize cut slopes where possible. Where cut slopes are necessary, they will typically not exceed a 50 percent (27 degree) slope. A 30 percent (18 degree) slope is preferable to increase the probability of revegetation.

- All guardrails will have a natural appearance design (timber, naturally weathered rail, or other materials).

- All signposts and sign backs will be dark brown in color.

- Where appropriate, exposed rock will be stained where cuts occur into bedrock in visually sensitive areas. This will minimize the stark color contrasts of very lightly colored freshly cut rock with the dark background of the forested mountainside.

- Blast in such a way as to avoid the defined, vertical drill holes that sometimes result. Explosives will be used in such a way that the faces of the rock outcrops are fractured, imitating a natural appearance.

- Implement landscaping and revegetation on all abandoned roadway segments and adjacent disturbed land that is capable of sustaining vegetation. Revegetation of trees and shrubs will be as close as practical to the new roadway without compromising safety.

- Stabilize and revegetate existing barren slopes as practical using native vegetation techniques and techniques similar to those developed for areas of new disturbance.

- Use the Guanella Pass Scenic Byway Corridor Management Strategy (CMS) as a guide for enhancing the visual quality of the roadway. Where possible, the strategies in the CMS to preserve the rural and rustic character of the Guanella Pass corridor will be implemented to maintain consistency between the CMS and the project. Some of the visual strategies include creating a buffer zone between formal parking areas and the roadway and softening the effects of the presence of the road in the environmental setting.

During the final design phases of the project, the FHWA will conduct a workshop(s) to evaluate options for retaining walls and guardrail materials. The FHWA will coordinate the selection of the materials for these accompanying roadside structures with the cooperating agencies.

F. RECREATIONAL RESOURCES

The FHWA, in cooperation with the FS, will provide additional recreational elements such as pullouts, interpretive stops, scenic vista points, parking areas, and access and parking for hiking, fishing and picnic areas. Also, vehicle access and parking at specific sensitive locations designated by the FS will be restricted by using earthwork grading, boulder placement, guardrails, signs, and other techniques. The project formalizes established parking areas considered appropriate by the CMS and discourages use of non-formal parking. This will alleviate some of the problems of inappropriate use and overuse.

A unified signage system along the road will provide a consistent, high-quality design element to the road and will provide useful information to visitors. Interpretive signs will be located throughout the project at appropriately sized pullout and roadside parking locations identified in the CMS. Interpretive signs developed in concert with the CMS plan will provide information about the natural environment and recreation opportunities in the area. They will also educate people about ways to minimize environmental impacts from recreational uses.

The FHWA will research and install warning signs or other technologies to lower operating speed between Grant and Falls Hill (Stations 1+000 to 9+380)

To mitigate the potential for increased hazard to bicyclists, horseback riders, and pedestrians using the roadway, regulatory and warning signs will be provided to discourage excessive vehicle speed, and to advise of roadway locations requiring slower speeds. For example, equestrian crossing signs will be placed at the top and bottom of Falls Hill.

The FHWA, in coordination with the FS, will reconstruct the horse trail above the Scott Gomer Creek Falls switchback and will construct a horse trail from the Whiteside Campground to the Three Mile Trail head with a bridge over Geneva Creek. The FHWA will coordinate the details of the location and design with Tumbling River Ranch.

During final design, the FHWA will research and determine eligibility to pay for safety control items that assist in law enforcement and heighten speed control.

G. PLANTS AND ANIMALS

Conservation measures consistent with the goals, standards, and guidelines established in the Forest Plans will be coordinated with the FS, the Colorado Division of Wildlife (CDOW), and USFWS. These measures will become elements of the construction plans and specifications.

1. Threatened, Endangered, and Candidate Species

This section contains measures minimize harm to the federally listed Canada lynx (threatened), and the Federal candidates for listing: boreal western toad and Porter's feathergrass (both are also FS sensitive).

Canada Lynx: Existing forest cover along the road between Guanella Pass Campground and Geneva Park will be maintained to the maximum extent possible.

The road will be designed to prevent parking in undesignated locations.

Parking lot construction activity at Guanella Pass will be prohibited during dawn, dusk, and nighttime hours.

Slope stabilization and revegetation specifications will be developed in coordination with the FS to reestablish tree and shrub cover as close to the reconstructed road as is consistent with site characteristics and safety.

Borrow site activity will be restricted to daylight hours.

Borrow sites will be contoured and revegetated.

Guardrail types and materials will be used that do not impede sight of the road from the shoulder for animals, except within the limits of the Town of Georgetown, where solid walls (guardwalls) are proposed for aesthetic reasons.

Retaining wall sections will be designed with a bench between the guardrail and the edge of the wall so that an animal can pause before proceeding.

Proposed retaining wall sections will be evaluated during final design to minimize the length of continuous walls higher than 1 m (3 ft) in potential lynx crossing areas. Field inspections will be held in coordination with the USFWS, CDOW, and the FS to examine locations where retaining walls are planned near potential lynx crossing areas. This data will be used to develop site-specific input for final design. Emphasis will be placed on locations such as 17+870 and 23+560, where only short gaps are currently planned between relatively long sections of retaining wall.

If a lynx is killed in the project area, the FHWA will, within 24 hours, notify the State Service law enforcement office at (303) 274-3560, and assist in making arrangements to transport the carcass to the appropriate State, Federal, or Tribal Wildlife agency so that biological information can be collected. The CDOW will also be contacted at (970) 472-4310.

In addition to the above measures, the FS has committed to the following measures that fall within its jurisdiction:

- The west-side parking lot and access road at Guanella Pass will be closed to winter use.
- Overnight camping closer than 0.8 kilometers (0.5 miles) to the Guanella Pass parking lot will be prohibited.
- The trail on the west side of Guanella Pass will be reconstructed to eliminate braided sections in nearby willow habitat.
- The FS will promote use of system trails only through design and interpretation.
- The FS will retain future options of modifying management to protect lynx or other potentially occurring listed species.

Boreal Toad: Additional adjustments to the road alignment adjacent to occupied and potential habitat will be made during final design.

Design will include measures to minimize potential hydrologic impacts to wetlands in areas identified as boreal toad habitat such as culvert outlet flow dissipaters.

Specific segments (Stations 25+000 to 31+500 and Stations 21+000 to 23+000) of the road will be evaluated to determine where drift fences could be used to encourage toads to cross the road through culverts or tunnels. Both CDOW and FS personnel will be requested to attend design field reviews to help determine the location of these drift fences and to coordinate any additional measures that may be identified at that time.

Porter's feathergrass: The FHWA will identify construction boundaries from Stations 9+100 to 9+700 using temporary fencing. Special provisions will be included in the construction contract regarding this area, including penalties for transgression of the construction boundary.

2. Forest Service Sensitive Species

This section contains measures to minimize harm to a specific FS sensitive animal or plant species.

Boreal owl: Nighttime surveys for boreal owls will be conducted one year prior to construction work in full reconstruction areas in mature conifer habitats. The FHWA will coordinate as appropriate with the FS concerning scheduling of construction activities.

Northern Goshawk: Protocol surveys will be conducted during May – June of the year prior to construction to identify goshawk use areas (for contracting information), and follow-up same-year (as construction) surveys in the identified use areas to determine whether scheduling of construction activities is needed to avoid nesting/foraging territories during May-August. Restrictions will be determined in coordination with the FS.

Reflected moonwort: The FHWA will mitigate impacts to reflected moonwort with a transplanting effort of up to six sites in coordination with FS botanists. Undisturbed gravelly roadside sites will be identified and used as recipient sites.

Northern blackberry: To protect the blackberry, the FHWA will identify construction boundaries from Stations 9+100 to 9+700 using temporary fencing. Special provisions will be included in the construction contract regarding this area, including penalties for transgression of the construction boundary.

Weber's monkeyflower: The FHWA will identify the sensitive area for the construction contractor and the contractor will be required to stay within the construction limits. Special provisions will be included in the construction contract regarding this requirement, including penalties for transgression of the construction boundary.

3. Forest Service Management Indicator Species

This section contains measures to minimize harm for those FS Management Indicator Species where measures are proposed for a specific animal or plant. Also included is the rare Colorado endemic species: Colorado Rocky Mountain Columbine.

Ptarmigan: In the future, interpretive and informational signs will be provided to educate visitors of the sensitivity of the ptarmigan.

Bighorn sheep: Warning signs will be provided to minimize impacts to bighorn sheep in the Geneva Creek Canyon and elsewhere along the road where conflicts exist between roadway traffic and bighorn range use.

Elk: Warning signs will be provided to address the potential conflict at the elk crossing in Geneva Park.

Rocky Mountain columbine: If impacts cannot be avoided, the FHWA will consult with the FS to determine appropriate measures, which could include a transplantation effort if practicable.

4. Plants and Animals in General

Establish native vegetation on all disturbed areas capable of supporting vegetation using modern revegetation materials and techniques. A comprehensive revegetation plan will be developed in coordination with the FS and the local weed control officer. The revegetation plan will be consistent with the Arapaho-Roosevelt National Forest Revegetation Policy.

Evaluate the slopes in the rehabilitation sections of the selected Alternative 6 on a site-by-site basis with the cooperating agencies to determine where it is feasible to repair the slopes to promote revegetation and reduce sedimentation and erosion.

Certify that revegetation plant mixes are weed-free.

Develop slope stabilization and revegetation specifications to reestablish tree and shrub cover as close to the reconstructed road as is consistent with safety and site characteristics.

Develop wetland mitigation that address wetland habitat replacement needs for wildlife species that use wetlands as habitat.

Clear wetland and riparian habitats prior to the onset of the nesting season, which avoids or minimizes the take of migratory birds and reduces local impacts to species that nest in the construction areas.

Include measures to minimize harm to riparian areas in the revegetation plan developed in coordination with the FS.

Conduct surveys along the entire road corridor for raptors in the year prior to construction. The purpose is to identify areas that will need restricted construction periods and therefore need to be identified in the construction contract.

Schedule construction activities to minimize impacts to sensitive species.

Wash construction equipment before it enters the project to reduce the chance of introducing foreign weed seeds to the ecosystem.

Certify that all imported fill or aggregate material is weed-free.

Encourage reduced speeds with rough-textured surfaces and regulatory and warning speed control signs and at kiosks.

Construct creek crossings with natural bottom culverts and construct oversized culverts in appropriate areas to allow passage of fish, amphibians, reptiles, and small mammals.

Use techniques in the longer stretches of retaining walls that will allow large mammal passage.

The FS will review preliminary design plans and provide feedback regarding measures to minimize harm to specific wildlife species.

H. CONSTRUCTION

The following mitigation steps will be followed for construction activities. Measures to minimize harm for potential construction impacts to water quality are included at the end of this section.

1. General Construction Measures

All applicable zoning and other local regulations apply, as well as the *Standard Specifications for Construction on Roads and Bridges on Federal Highway Projects* (FHWA 1996). The contractor will be required to keep work areas in an orderly condition, to dispose of all refuse properly, and to obtain permits for the construction and maintenance of all construction camps, stores, warehouses, latrines, and other structures in accordance with applicable requirements. No food or trash will be stored in a location accessible to scavengers.

The contractor will use only approved portions of the right of way for storing material and placing plants and equipment, and cannot use private property for storage without written permission of the owner.

The contractor will comply with all legal load restrictions when hauling material and equipment on public roads to and from the project. Special provisions will be included in the construction

contract regarding the contractor's responsibility for damage resulting from the moving of material or equipment.

Safety to the public, in particular pedestrians, bicyclists, and equestrians, will be the highest priority. Construction-related traffic must follow speed limits and other applicable laws. Work will be performed in a manner that assures the safety of the public and protects the residents and property adjacent to the project. The roadway will be maintained in a safe and acceptable condition, including periods when work is not in progress. The contractor will maintain intersections with trails, roads, streets, businesses, parking lots, residences, garages, and other features.

The FHWA will provide safe access through the construction zone for horseback riders and guests at all times and maintain the existing horse trail through Falls Hill during construction. Construction activities will be coordinated with local outfitters. Permanent horse crossing signs will be installed at the top and bottom of Falls Hill.

For delays longer than 30 minutes, public notice will be given in advance through the local news media and by informational signs. The road will be kept open on weekends without construction delays from 6:00 p.m. Friday to 11:00 p.m. Sunday and on national holidays.

Traffic management efforts will be coordinated with local businesses, residents, Xcel Energy, etc. to ensure their involvement prior to and during all construction activities. The road will not be closed during the peak aspen viewing period. Local businesses and residents will be informed of construction activities (road closures, traffic delays, etc.).

Emergency service providers will be given up-to-date information on construction schedules, anticipated delays, and locations. The contractor will be required to provide immediate passage through the construction for all emergency service vehicles to the extent practical.

The FHWA will discuss the timing of construction activities in sensitive areas (i.e. near businesses or residences) with Clear Creek County, Park County, the Town of Georgetown, the FS, the CDOT, and local businesses and residents that regularly use the road. Construction activities in sensitive areas will be minimized, or timed, to the extent practical such that there is minimal impact on the surrounding community.

No construction activities or aggregate material hauling will take place from Memorial Day through Labor Day from approximate Stations 1+000 to 12+000 (Grant to Duck Creek Campground). From Memorial Day to Labor Day unimpeded road access will be provided from Grant to the Tumbling River Ranch. Limited construction and controlled construction traffic will be allowed in May and September. This construction will entail minor traffic delays. From Labor Day to Memorial Day, construction activities, including aggregate hauling, in the vicinity of Tumbling River Ranch (Stations 6+500 to 7+000) will only occur from 7:00 a.m. to 7:00 p.m. The majority of the construction activities (e.g. most of the grading, drainage, retaining walls) at Falls Hill (Stations 7+000 to 9+380) will be sequenced to occur from October 1 through May 1, and the FHWA will notify Tumbling River Ranch of construction in this area and coordinate with them to try to minimize disruption to their business.

If Tumbling River Ranch provides a schedule of travel times across Guanella Pass, the FHWA will try to meet reasonable requests for unimpeded travel. Such scheduled travel will be accommodated to the maximum extent practicable with as little delay as possible.

The project area will be left in good condition over the nonworking seasons.

The FHWA and the FS are committed to a continuous and open communication and coordination with Clear Creek County, Park County, the Town of Georgetown, the FS, the CDOT, and affected property owners throughout the duration of the final design and construction of the project. Construction activities will be communicated with all adjacent landowners. The Project Engineer will notify Tumbling River Ranch of all construction activities (road closures, extended traffic delays, timing of construction, etc.) that may affect the business operations of the Ranch. The Project Engineer will maintain a close line of communications with all parties that are directly affected by the construction.

Timing and location of construction operations will need to be scheduled to minimize effects to fish and wildlife. Seasonal restrictions will be based on pre-construction surveys and coordination with wildlife agencies. This is also noted in **Section VI.G: Plants and Animals**, above.

Construction equipment will be washed before entering the National Forest system lands to reduce the chance of introducing foreign weed seeds to the ecosystem. In addition, all imported fill or aggregate material and revegetation plant mixes will be certified weed-free.

Areas in Geneva Park will be temporarily fenced to protect rare plant areas.

The contractor will maintain a reasonably dust-free traveled way. Accumulations of soil and other material will be removed from the traveled way.

All fences, gates, and wall that need to be removed or are damaged as a result of the construction project will be replaced in kind.

2. Hauling

Material sources will be developed within the Guanella Pass Road corridor to reduce the amount of construction truck traffic. The material source locations include the FS land near Duck Lake and the Geneva Basin Ski Area parking lot. These areas have been found to possess material of good quality for use in road construction. The material source site at Duck Lake will only serve the sections from the Forest Boundary (Station 7+000) northward. Aggregate placed from Grant to the Forest Boundary (Station 1+000 to 7+000) will come from commercial sources on the Grant side of the project.

From approximate Stations 1+000 to 12+000 (Grant to Geneva Campground), no aggregate material hauling will take place from Memorial Day through Labor Day. To the extent practical, materials that can be stockpiled in advance of construction will be hauled to staging areas between October 1 and May 1. Hauling of other construction materials including fuel, asphalt cement, culvert pipes, retaining wall material, and machinery will need to be done throughout the year. The Project Engineer will notify Tumbling River Ranch on a daily basis from Memorial Day through Labor Day and a weekly basis the rest of the year about construction hauling traffic that travels through Grant. The FHWA will coordinate the limited hauling activities from Memorial Day through Labor Day to avoid conflict with Ranch activities to the extent possible.

Argentine/Brownell Street in Georgetown will be used as a construction haul route. Roads within the Town of Georgetown that are on construction haul routes will be repaired. The

repairs will include milling the existing asphalt surface to an appropriate level, repaving the surface, and improving the drainage elements (curb and gutter) to ensure that they are in equal or better condition after construction. The FHWA agrees to move Argentine/Brownell Street to the west one roadway width from 15th Street to just before 11th Street. Additionally, the FHWA will build a bridge at 7th Street to route construction traffic through town. See **Section VI.I.4: Town of Georgetown – Construction Impact Measures**, below, for more detailed information.

Notification concerning construction hauling traffic will be given to the Town of Georgetown, Clear Creek County, Park County, and businesses and property owners along the road and haul route on a daily basis from Memorial Day through Labor Day and on a weekly basis the rest of the year. Any limited hauling activities occurring between Memorial Day and Labor Day will be coordinated to avoid conflicts as much as possible with business activities along the road.

Staging areas will be developed within the Guanella Pass Road corridor to reduce the amount of construction truck traffic. These areas include the Geneva Basin Ski Area parking lot and other existing disturbed areas (pullouts, dispersed recreation parking areas, etc.). In addition, any new parking areas could be used for staging while they are under construction.

With the exception of materials from the on-site materials sources, material for the Clear Creek County construction will be hauled in from the Clear Creek County side of the pass and material for the Park County construction will be hauled in from the Park County side of the pass.

3. Water Quality Control Measures

Under the build alternatives, several measures will be implemented to minimize erosion and sediment runoff. Temporary erosion control measures (e.g., mulches, fiber mats, hay bales, silt fences, rock lining, rock buttresses, riprap, catch basins, water deflectors, berms, dikes, cofferdams, temporary culverts, slope drains, sodding, etc.) will be used during construction to limit erosion and resultant sediment and water pollution. To comply with National Pollutant Discharge Elimination System (NPDES) requirements, an erosion control plan identifying those measures to be used will be incorporated into the project design plans. This plan will be used as the basis for protecting the project from erosion during construction. The contractor will be required to incorporate all permanent erosion control features into the project at the earliest practicable time. No work will be started until the necessary controls are installed.

For soil erosion control, the contractor is required to apply temporary vegetation establishment or other approved measures on disturbed areas that will remain exposed for over 30 days, construct and maintain erosion controls on and around soil stockpiles to prevent soil loss, shape earthwork to minimize and control erosion from storm runoff after each day's work, inspect all erosion control facilities at set intervals, and maintain temporary erosion control measures in working condition until the project is complete or the measures are no longer needed. There are also specifications for topsoil, fertilizer, mulches, seed and other plant materials, erosion control mats, tackifiers, sod, straw bales, silt fences, geotextiles, etc.

The contractor will be required to designate an individual, other than the contractor's superintendent, whose primary responsibility is to serve as the Environmental Commitments Supervisor for the duration of the project. The Environmental Commitments Supervisor's responsibilities include directing the implementation of effective erosion/sediment control measures to control construction site drainage and water quality; directing the construction, operation, and dismantling of temporary erosion control features; being available to modify site drainage and implement storm and winter shutdown procedures; and assuring that all measures

to minimize harm are being implemented and adhered to by the contractor. Winter shutdown procedures will be included in the erosion control plan.

The project specifications will limit the area of excavation, borrow, grading, and embankment operations commensurate with the contractor's capability and progress in accomplishing finished grading, mulching, seeding, and other erosion control measures. All available topsoil will be stripped, stockpiled, and placed on new slopes. Fertilizer (where appropriate), seed, and mulch will be placed on all cut and fill slopes capable of sustaining vegetation. Because several successive construction projects will be required to complete the route, the success of revegetation efforts will be evaluated by the cooperating agencies to determine whether additional revegetation work is needed. Additional work will be included in successive project contracts and revegetation procedures modified for these contracts.

Erosion control structure specifications will be included in the contract plans. The FHWA's project engineer and the contractor will resolve unanticipated erosion problems that develop during construction. The Counties will do continued maintenance of permanent erosion control structures after construction. During construction this will be the responsibility of the contractor.

Several techniques for erosion control will be used. Silt fences will be typically used to filter sheet flows coming from the project site. They will be installed along the downslope or sideslope perimeter of the area of disturbance. Silt fences will also be used where the roadway is close to a stream, wetland, or other body of water.

Temporary diversion ditches (soil cut out into a channel) will be used above new cut slopes, where appropriate, to divert clean surface flows away from disturbed areas. The flows will either be directed away from the project site, or directed to a temporary culvert that will allow the flow to pass through the work site without additional contamination.

Temporary berms (soil formed into a barrier) will be used along the top of unstabilized embankments where appropriate to collect water from the exposed grade. An outlet or temporary slope drain will then be provided at regular intervals to outlet the flow to a sediment trap or other sediment trapping measure.

Permanent pipe culverts that originate from within the disturbed area will have silt fence, straw bales, a gravel filter, or other measure placed around its inlet to prevent sediment from entering the pipe culvert. Silt fences and/or straw bales will be placed at pipe culvert outlets to collect sediment that does pass through the culvert. Riprap will be placed at pipe culvert outlets to dissipate energy.

Sediment traps will be used where appropriate and where space permits to trap runoff and allow the sediment to settle out.

Erosion control logs may be used in similar fashion or in conjunction with silt fences as a temporary measure. Erosion control logs may also be used in low flow waterways and ditches to channel runoff.

To provide the FHWA with an additional means of enforcing the erosion control plan and preventing degradation of water quality, the following statement will be included in the contract:

> Monitor the turbidity of waters adjacent to the project. Take turbidity measurements using an HF-DRT 15 turbidimeter or equivalent upstream of the project and 150 meters downstream of the area of the highest turbidity. If the measurements show an increase of 10 Nephelometric Turbidity Units (NTU) or more, immediately suspend operations in the vicinity of the problem area and modify the erosion control plan to eliminate the cause of the high turbidity. Include turbidity readings, locations, and actions taken, if any, in inspections reports. Also provide documentation of meter calibration.

Specific erosion control measures required of the contractor include:

- Limit the combined grubbing and grading operations area to 3.0 hectares (7.4 acres) of exposed soil at one time.
- Unless a specific seeding season is identified in the contract, apply permanent vegetation establishment to the finished slopes and ditches within 30 days.
- Apply temporary vegetation establishment or other approved measures on disturbed areas that will remain exposed for over 30 days.
- Construct and maintain erosion controls on and around soil stockpiles to prevent soil loss.
- Following each day's grading operations, shape earthwork to minimize and control erosion from storm runoff.
- Inspect all erosion control facilities at least every 7 days, within 24 hours after more than 10 millimeters (one half inch) of rain in a 24-hour period, and as required by the contract's permits.
- Maintain temporary erosion control measures in working condition until the project is complete or the measures are no longer needed. Clean or replace erosion control structures when half full of sediment.

The *Standard Specifications For Construction of Roads and Bridges on Federal Highway Projects* (FHWA 1996) (*Standard Specifications*) requires that the contractor not place any materials into waters of the U.S. without a permit, and provides procedures to follow in the event of an unauthorized discharge. It addresses removal and disposition of accumulated sediment, proper storage of construction materials, and contractor work area cleanliness. Included in the contract specifications will be the following excerpt from the *Standard Specifications*:

> Do not operate mechanized equipment or discharge or otherwise place any material within the wetted perimeter of any Water of the U.S. within the scope of the Clean Water Act. This includes wetlands, unless authorized by a permit issued by the U.S. Army Corps of Engineers, and if required, by any state agency having jurisdiction over the discharge of materials into Waters of the U.S. In the event of an unauthorized discharge:

- Immediately prevent further contamination
- Immediately notify the proper authorities
- Mitigate damages as required

Separate work areas, including material sources, by the use of a dike or other suitable barrier that prevents sediment, petroleum products, chemicals, or other liquid or solid material from entering the Waters of the U.S. Use care in constructing and removing the barriers to avoid any discharge of material into, or the siltation of, the water. Remove and properly dispose of the sediment and other material collected by the barrier.

For any build alternative, the construction contract will specify that, if a contractor's vehicle or person accidentally dumps pollutants that could pollute any water body along the proposed project, emergency action will be taken to prevent contamination of the water body. Reporting procedures for accidental spillage will be included in the contract. The FS, CDOW, the Town of Georgetown, the Argo water plant, and Colorado Department of Public Health and Environment (CDPHE) will be immediately informed of any such event. In-stream activity is limited to that necessary for placing structures and for wetland replacement measures. No in-stream fueling of any vehicle will be permitted. If the contractor locates an oil storage facility that exceeds a certain capacity (as specified in EPA regulations) and where the occurrence of spills could contaminate water bodies, the contractor will have to comply with EPA regulations in the preparation and implementation of a Spill Prevention Control and Countermeasure Plan.

The BMPs that will be employed for any construction project on Guanella Pass Road are found in four publications, and their contents are briefly summarized below.

The *Watershed Conservation Practices Handbook* (FS 1996) contains 17 standards in four categories: Hydrologic Function, Sediment Control, Soil Productivity, and Water Purity. Although some standards are mainly applicable to forest management needs, most will apply to roadway construction as well. Design considerations for meeting the standards are included.

An example standard is: "Design and construct all stream crossings and other in-stream structures to pass normal flows, withstand expected flood flows, and allow free movement of resident aquatic life." Design considerations are: "Stream crossings must be designed for specific flood flows and provide for passage of fish and other aquatic life. Crossings will be installed on straight and resilient stream reaches, as perpendicular to the flow as feasible. To keep stream beds and banks intact, the order of preference for stream crossings, as feasible, is: bridge, hardened ford, bottomless arch, culvert." (Note that the order of preference is for roads in general – a hardened ford is not appropriate for Guanella Pass Road.)

The *Guide to Water Quality Protection and Erosion Control* (Upper Clear Creek Watershed Association 1994) contains eight General Erosion and Sediment Control Principles: 1) time grading and construction to minimize soil exposure during periods of snowmelt and rainy periods, 2) retain and protect natural vegetation, 3) seed and mulch cleared areas, 4) infiltrate runoff from impervious and cleared surfaces, 5) minimize length and steepness of slopes, 6) keep runoff velocities low, 7) protect drainageways and outlets from increased flows, and 8) trap sediment on-site. Except for Principle 4, the principles are part of the FHWA's BMPs, and specific requirements are detailed in the FHWA *Standard Specifications*. Principle 4 is mainly intended for construction of buildings; infiltration along roadway cut and fill slopes can cause subsurface degeneration and slope instability.

BMPs are listed along with methods of implementation, materials needed, and maintenance tips. The BMPs listed are revegetation, mulching, slope netting, tree protection, berms and ditches, sediment barriers, driveway and parking area stabilization, infiltration systems, slope stabilization, drop inlets, snow removal, sanding procedures, and sediment basins.

Best Management Practices (FHWA 1998) contains many of the same BMPs noted above, but also includes extensive design details for inclusion in project plans. A section on stabilization measures covers temporary seeding, permanent seeding, sodding, topsoiling, mulching, erosion control blankets, and matting. The section on structural erosion control measures includes check dams, diversions, temporary slope drains, outlet protection, energy dissipaters, silt fences, straw bales, brush barriers, and inlet protection. A separate section covers sediment traps and basins.

4. Town of Georgetown – Construction Impact Measures

The Town of Georgetown has requested measures to minimize harm for construction impacts. Georgetown's concerns about construction impacts have been addressed by the FHWA as follows:

- Connection of Guanella Pass drainage to the town system at 5th Street. This connection necessitates curb and gutter installed to the town's specifications on Rose Street from 2nd to 5th Streets. The FHWA has committed to do this work in the past and plans to continue their discussions with Georgetown about how to accomplish this work.

- Agreement on a hauling route. The Board of Selectmen suggests consideration of using a 7th Street bridge constructed by the FHWA. Vehicles will use Argentine/Brownell to 7th and cross to Rose or Argentine depending on vehicle length. The bridge will be permanent. This route limits the number of bridges that will be used by construction vehicles to one, rather than requiring use of the existing bridges on Rose, 11th and 6th Streets which would have to be re-inspected and possibly reconstructed.

- The FHWA also believes that part of the parking lot between Argentine and Rose will need to be temporarily used to facilitate hauling vehicle turns onto Argentine and Rose from 7th Street.

- Argentine/Brownell Street will be used as a construction haul route. This area is part of Georgetown's proposed Gateway Improvement project. To mitigate construction damage to Georgetown's streets, the FHWA agrees to move Argentine/Brownell Street to the west one roadway width from 15th Street to just before 11th Street. The existing right of way width permits this change. The FHWA will taper Argentine/ Brownell back to match the existing roadway at the intersection with 11th Street. This roadway will be lowered for approximately one half of this length to better match the elevation of the existing parking areas adjacent to either side of the road. This work will not impact the trees on the west side of Argentine/Brownell near the intersection of 11th Street. The FHWA will use Georgetown's conceptual drawings for this work and create a design that matches those drawings as close as possible. The FHWA cannot perform any work outside this proposed roadway width since this would not be eligible for a haul road or construction damage mitigation.

I. HAZARDOUS MATERIALS

An onsite management model developed between CDOT and CDPHE will be used for managing any mine dump materials disturbed by any of the build alternatives. The main onsite management goal will be to prevent the mine dump material from entering surface water. Any mine dump materials excavated under any of the build alternatives will be reused as fill, and slopes exposed by the work will be covered with soil and revegetated, if practicable (i.e., slopes less than 2:1). The mine dump materials will not be used near seeps or culverts that could transport sediment or metals into local surface water or groundwater. A solid waste management plan, if needed, will be prepared in coordination with the CDPHE and the plan will describe the approach in more detail.

A storm water discharge permit will be obtained for the work, and the permit will include requirements for reducing pollutants in storm water discharges from the construction site. The permit will include a Storm Water Pollution Prevention Plan (SWPPP) that identifies BMPs. See previous discussions on BMPs. BMPs will be site management practices that minimize erosion and sediment transport (e.g., use of straw bales, silt fences, earth dikes, temporary or permanent sediment basins, flow diversions, etc.). The SWPPP will also include a description of the measures used to achieve final stabilization and measures to control pollutants in storm water discharges that occur after construction operations have been completed.

If the road improvements affect the electric transmission equipment within the corridor, coordination will be conducted with Xcel Energy and Intermountain Rural Electric Association concerning polychlorinated biphenyl (PCBs) that may have impacted any soils that will be disturbed by road construction.

J. SECTION 4(F) RESOURCES

The measures to minimize harm to Section 4(f) resources are as follows:

- Retaining walls, careful blasting techniques, rock-cut stain, and revegetation will be used to minimize visual impacts to Section 4(f) resources.

- Architectural treatments will be incorporated into the retaining wall design to reflect the backdrop and character of the historic district.

- During the pre-construction inspection, special care will be used to delineate clearing limits so that small construction adjustments can allow additional trees to be saved in the area of Guanella Pass Campground.

IX. Record of Decision Approval

All of the build alternatives would fully or partially address each of the project objectives. The alternative that best meets the purpose of and balances the various and sometimes conflicting needs for the proposal, and which is also the environmentally preferred alternative, is Alternative 6. The decision to select Alternative 6 is based on: 1) a review of the transportation needs of the areas of Park and Clear Creek Counties, the Town of Georgetown, and the Pike-San Isabel National Forest and the Arapaho-Roosevelt National Forest served by Guanella Pass Road; 2) a social, economic, and environmental analysis of six alternatives; and 3) a review of public and agency comments received during the environmental process.

Alternative 6 will most effectively balance the competing concerns expressed in the purpose of and need for the action, information provided in environmental impact studies contained in the FEIS, comments received from the public, and recommendations from the FS, Park County, Clear Creek County, the Town of Georgetown, the USFWS, the USACE, the CDOT, the CDOW, the EPA, the Department of Interior, and participating tribes.

As indicated in **FEIS Section III.C.4: Section 4(f) Resources**, there is no feasible and prudent alternative to the use of land from the following Section 4(f) properties: the GSPNHLD, Mine Tailings Dumps (sites #5CC988-990), and Guanella Pass Campground. Alternative 6 includes all possible planning to minimize harm resulting from such use.

Based on the above information, the FHWA has selected Alternative 6 for implementation.

Larry C. Smith, P.E.
Division Engineer
Central Federal Lands Highway Division
Federal Highway Administration

1/14/03
Date

APPENDIX A:

Comments on the Final EIS and Responses

And Comment Indexes 1 and 2

Organization of Responses to Public Comments on the FEIS

Appendix A contains the comments received regarding the FEIS, and responses to those comments. Following the Comments and Responses section are Indexes 1 and 2, which list all of the agencies, organizations, and individuals who made comments, and indicate where responses to their comments can be found. There are two indexes: comments on the FEIS received prior to publication of the FEIS (Index 1) and comments received after publication (Index 2).

The commenters in each index are sorted by Comment Classification, then Agency or Organization, then Last Name. If the comment was partially or fully addressed in Appendix B of the FEIS, the next-to-last column indicates where in Appendix B of the FEIS it can be found. If the comment is addressed by a new response contained in this Appendix (R1, R2, R3, etc.), the response number is shown in the last column.

Comments and Responses

1. The Federal Highway Administration is ignoring the public's desire for less construction.

The Federal Highway Administration's (FHWA's) actions during the three years following the publication of the Draft Environmental Impact Statement (DEIS) demonstrate that it has listened and responded to public sentiment. For example:

- After the DEIS was published and the FHWA received comments, a new alternative, Alternative 6, was developed for the purpose of addressing public concerns.

- Because the public expressed the concern that the alternatives presented in the DEIS would cause motorists to view Guanella Pass as a connector between I-70 and State Highway 285, Alternative 6 revised the functional classification of the road from that of a collector that connects two major roadway arteries to a rural local road whose primary function was to serve adjacent lands.

- By revising the functional classification of the road, the FHWA was able to use design standards, such as a narrower roadway width and reduced amount of reconstruction, that reduce environmental impacts.

- Because the public expressed a desire for only rehabilitating the road, Alternative 6 was developed to maximize rehabilitation of the road to the greatest extent possible without compromising minimum safety standards.

- The DEIS included a number of bypass options to direct traffic headed for Guanella Pass away from the historic district of Georgetown to reduce congestion. Based on public comment expressing concerns about loss of business, these bypass options were eliminated from further consideration.

- Because citizens of Georgetown expressed concern about construction truck traffic impacts, the FHWA has worked with the Town of Georgetown to identify an acceptable haul route, which includes the construction of a new bridge on 7th Street.

- Because the citizens of Georgetown expressed concerns regarding construction truck traffic impacts to historic buildings, the FHWA conducted a study to determine whether the vibrations resulting from the trucks would impact the historic buildings. The study showed that the truck traffic would not adversely impact the historic buildings.

- Based on the public's request for maintaining the rustic appearance of the road, the FHWA conducted an alternative surface type study which included surfacing 100 meter portions of Guanella Pass with various surface types and then soliciting public comment to help determine which was the most rustic in appearance and ride.

- Based on concerns about the number of construction related truck trips through Georgetown and Grant, the FHWA identified material sources along Guanella Pass to be used to provide the aggregate needed for the project. As a result, the number of trucks hauling through Georgetown and Grant has been greatly reduced.

- The FHWA has proposed an equestrian trail in Park County to permit safe passage of horseback riders.

- The FHWA has been working with local landowners to develop a construction operations schedule that minimizes impacts to local business operations.

- By regulation, a Record of Decision (ROD) cannot be published any earlier than 30 days after the publication of the Final Environmental Impact Statement (FEIS). However, due to public request, the FHWA has extended this an additional 30 days. Comment periods for the DEIS and Supplemental DEIS (SDEIS) were also extended at public request to allow additional time for comments.

The National Environmental Policy Act (NEPA) process does not require the lead agency to select the environmentally preferred alternative or the alternative that is most popular among the public comments. NEPA requires that environmental information be made available to public officials and citizens before decisions are made and before actions are taken in order to make better decisions.

2. Alternative 6 is not what the Sierra Club or the public wants. Alternative 6 is overbuilt, and includes unnecessary reconstruction. Alternative 6 is not a minimal improvement or rehabilitation alternative.

The FHWA acknowledges that Alternative 6 is not a "rehabilitation only" alternative. The FHWA has concluded that limiting construction to rehabilitation would not meet the project objectives nor fulfill its responsibilities as described in 23 Code of Federal Regulations (CFR) Part 625.2, which states that the FHWA will provide a " . . . provide for a facility that will (1) Adequately serve the existing and planned future traffic of the highway in a manner that is conducive to safety, durability and economy of maintenance; and (2) Be designed and constructed in accordance with criteria best suited to accomplish the objectives described in paragraph (a)(1) of this section [above] and to conform with the particular needs of each locality." Alternative 6, which consists of 63 percent rehabilitation, 18 percent light reconstruction, and 19 percent full reconstruction, is the minimal improvement alternative that fulfills these responsibilities.

3. The Counties, State, Federal Government, and citizens should work together to identify funding that can be used for minor upgrades, repairs, and maintenance.

The Counties have attempted to identify other sources of funding; however, the low traffic volume and poor condition of the road makes this road a low priority for other programs. The Forest Highway Program is designed to provide construction funding for roads of this type which otherwise would probably not qualify for improvement. There is no similar program for road maintenance.

4. The project should be redone with public comment solely in mind.

23 CFR 771.105(b) states: "It is the policy of the [Federal Highway] Administration that: Alternative courses of action be evaluated and decisions be made in the best overall public interest based upon a balanced consideration of the need for safe and efficient transportation; of

the social, economic, and environmental impacts of the proposed transportation improvement; and of National, State, and local environmental protection goals." Considering only one set of needs would not be responsive to this policy or in conformance with the intent of the NEPA process.

5. The project defies the US Constitution.

The Federal Lands Highway Program was established by Congress to provide funding for this kind of project. The Constitutional basis for this is found primarily in Article 1, Section 8, Clauses 1, 3, and 7 of the Constitution. These clauses state that "Congress shall have power to lay and collect taxes . . . to pay the debts and provide for the common defense and general welfare of the United States [Clause 1] . . . to regulate commerce [Clause 3] . . . [and] to establish Post Offices and post Roads [Clause 7]." Guanella Pass road qualifies for Federal funding due to its proximity to the Pike-San Isabel National Forest and the Arapaho-Roosevelt National Forest.

6. The present condition of the road is not a significant hazard to the environment. There is no demonstrable benefit to the environment.

The existing road has known deficiencies that degrade the environment of the roadway corridor, such as erosion of unvegetated slopes and the roadway surface that contribute to sedimentation in nearby streams and wetlands. See **FEIS page III-42** and the report *Sedimentation Problems Identified on the Guanella Pass Road, Aquatic and Soil Resource Recommendations* (Arapaho-Roosevelt National Forest 2001) for photographs showing the serious impacts that the existing road is having on the environment. If a government agency were considering building a road that would cause these conditions, it would be considered a significant impact to the environment.

One of the purposes for the action is to make improvements to existing conditions that currently have a negative impact on the environment. The proposed design includes measures to reduce sediment runoff from existing bare roadway slopes and the gravel/dirt surfacing, installation of oversize culverts to facilitate fish and small wildlife passage, and formalizing parking to prevent indiscriminate parking and associated overuse of sensitive areas such as wetlands, riparian areas, and tundra.

7. Safety statistics do not show a safety problem. They compare Guanella Pass Road to dissimilar roads. The formula is open to manipulation due to differences in the length of roads used for comparison. Also, statistics are calculated using faulty AADT statistics. Safety statistics from the Colorado Department of Transportation are calculated in miles, not kilometers, giving a significantly different answer.

See **FEIS Appendix B**, Category 23G regarding annual average daily traffic (AADT) data. *Incident and Crash Data* (Washington Infrastructure 2002) states that accident rates for Guanella Pass Road are notably higher than the accident rates on two similar hard-surface recreational roads. The traffic data used in the study was taken from actual counts and available data. Length of road does not affect accident rate, and the comparisons of accident rates are expressed in the same units in the study. Although this limited study is not definitive scientific proof that Guanella Pass Road is less safe than the other two roads, it does provide more information for consideration by decision-makers. Guanella Pass Road has recognized safety deficiencies such

as abrupt curves, restricted sight distance, and inconsistent and narrow roadway width that the proposed action is designed to address.

8. The main goal of the project should be to preserve the natural environment in the area.

The purpose of the Guanella Pass Road improvement project is shaped by the need to balance transportation needs (including recreational access to Forest Service [FS] lands) and roadway maintenance needs with the sensitive nature of the environment. **ROD Table 1** presents eight project objectives that describe the purpose of the project. The objectives were developed based on the needs identified by the Program Agencies with input from the local agencies (town and counties) and the public. Three of the eight objectives are intended to preserve the natural environment in the area.

9. The main purpose of the project is to spend Federal Gasoline Tax monies.

Although funding for this project does come from Federal Gasoline Tax monies, the purpose for the project is shaped by the need to balance transportation needs (including recreational access to FS lands) and roadway maintenance needs with the sensitive nature of the environment, as identified in the DEIS, SDEIS, and FEIS. Table 1 in the ROD presents eight project objectives that describe the purpose of the project. The objectives were developed based on the needs identified by the Program Agencies with input from the local agencies (town and counties) and the public.

10. The FS's goal for the project is to control access in order to cut down enforcement workload and to generate revenue through "fee-for-use" taxes.

The FS's goal for the project is to balance transportation and roadway maintenance requirements with the sensitive nature of the environment.

11. The cost of maintenance/enforcement will be passed on to users in the form of user fees.

No decision is being made in the ROD concerning charging user fees, and there are no current proposals to charge any new fees. Existing campground and picnic areas that do have user fees will continue to have fees in the future.

12. Use a fee to keep people out.

The FS cannot charge a fee merely to discourage use. Although charging a fee may initially have the effect of reducing use by some visitors, this effect is often temporary.

13. The FS creed is to protect our lands; this is not being done.

The FS's mission is "Caring for the Land and Serving People," indicating that the FS must take into consideration human needs as well as the needs of healthy ecosystems. The FS believes that by supporting this project, it is fulfilling its mission. The FS would have failed to perform this mission if it had recommended no action as its preferred alternative. To do nothing would only

perpetuate conditions that are harmful to the lands adjacent to the road as well as maintain the unsafe traveling conditions that presently exist for those who use the road.

The FS believes that Alternative 6 will improve the existing condition of the lands adjacent to the road. Vehicle access and parking at specific sensitive locations designated by the FS will be restricted by using earthwork grading, boulder placement, guardrails, signs, and other techniques. The project formalizes established parking areas considered appropriate by the CMS and discourages use of non-formal parking. This will alleviate some of the problems of inappropriate use and overuse. Sedimentation and erosion from the road surface and existing cutslopes will be reduced by revegetating barren cuts, hardening the road surface, and improving the almost non-existent drainage system with the development of ditches and adequately spaced culverts. Other benefits include use of oversized natural bottom culverts to facilitate better fish and small animal passage, and the removal of the road from wetland areas near Duck Creek, and restoring that wetland.

14. Improving control of access to adjacent land is only a benefit to the FS; it does not benefit the public that wants access, and is contrary to the purpose and mission of the FS.

Improving control of access is consistent with the FS mission of protecting the land. Allowing unrestricted access by people and their vehicles is contrary to that mission when it results in overcrowding, resource damage, wildlife disturbance etc.

15. The FEIS section "Areas of Controversy" (FEIS pg. S-6) should include a bullet for general public opposition to the project.

The third bullet item under "Areas of Controversy" includes the controversy associated with the extent of the proposed project.

16. Alternative 1 has not been given serious consideration.

Alternative 1 was fully analyzed in the DEIS and FEIS.

17. The FHWA has exaggerated its lack of discretion in designing the road to a standard that maintains the rural, rustic and scenic character of the road. The FHWA has not used context sensitive design as outlined in *Designing Safer Roads* and *Flexibility in Highway Design*, and it has failed to use the design exception process.

The FHWA has demonstrated great flexibility in designing the road so that it maintains it rural, rustic, and scenic character. In the *Reconnaissance and Scoping Report* (FHWA 1993), which was prepared to evaluate the conditions of the existing road, roadway widths of up to 30 feet (11-foot lanes, 4-foot shoulders) were originally recommended for the project. The report also recommended classifying the road as a rural collector, with design speeds of up to 56 km/hr (35 mph), and maximum grades of 8 percent. Since these original recommendations, the FHWA has employed the concepts found in *Flexibility in Highway Design* (FHWA 1997) (referred to below as the *Guide*) to develop the selected action, Alternative 6. Based on public comment, the FHWA revisited the classification of the road and determined that the classification "rural local road" was appropriate for Guanella Pass Road. This classification allowed the FHWA to use a

narrower roadway width (9-foot lanes, 2-foot shoulders) and a slower design speed (30 km/hr [20 mph]). In response to public comment, the FHWA elected to use a Class C recreational vehicle as the design vehicle in Alternative 6 as opposed to the larger, single-unit truck that was used for Alternatives 2-5. This reduction in design vehicle size allowed the FHWA to reduce the minimum switchback radius from 15 m (50 ft) proposed for Alternatives 2-5 to 12 m (40 ft) for Alternative 6, allowing the alignment to more closely follow the existing road. With respect to surfacing, the FHWA explored the use of alternative surface types to address the public's concerns regarding maintaining the rustic appearance of the road while also reducing the high maintenance cost and effort normally found with gravel roads.

The use of minimum standards for many of the design criteria, the revision of the road's functional classification, the reduction in design vehicle, the use of alternative surface types, and maintaining the roads existing horizontal and vertical geometry and cross section for 63 percent of the road (in the rehabilitation areas) are all examples of the application of flexible and creative design criteria as recommended in the *Guide*.

Design exceptions have been used where the minimum design speed cannot be reasonably accommodated by the terrain or where accommodation of the minimum design speed would create unacceptable environmental impacts. Alternative 6 includes exceptions to design standards for curvature, grades, and stopping site distance.

The *Guide* does not recommend the use of design standards that conflict with the recommendations in the American Association of State Highway and Transportation Officials' (AASHTO's) *A Policy on Geometric Design of Highways and Streets* (AASHTO 2001), nor does the *Guide* recommend application of flexible and creative design criteria and the use of design exceptions at the expense of safety and mobility. The *Guide* states, "This Guide does not establish any new or different geometric design standards or criteria for highways and streets in scenic, historic, or otherwise environmentally or culturally sensitive areas, nor does it imply that safety and mobility are less important design considerations." The *Guide* should not be viewed as a panacea for all environmental impacts for, as the *Guide* states, "changes in the design or design criteria will not always resolve every issue to a mutual level of satisfaction."

18. The design vehicle is inappropriate because it does not conform to the current use of the road. It currently matches only 2 percent of the vehicles that use the road. The design should use a Class B vehicle (which matches 98 percent of the vehicles), not Class C.

The Class B motorhome, with a length ranging from 4.8 to 6.4 m (16 to 21 feet), is approximately the same length as the smallest AASHTO-recognized design vehicle: the passenger car that is 5.8 m (19 feet) in length. If the road was designed to accommodate the passenger vehicle only, it would not safely accommodate emergency vehicles or vehicles hauling trailers, particularly at sharp turns and switchbacks. The road is currently used by service vehicles, emergency vehicles, and vehicles with trailers. If the passenger car was used as the design vehicle, although the centerline radius of the switchback could be reduced, the tighter curves would require additional roadway width through the switchback in order to accommodate the off-tracking of vehicles in tight curves, thereby negating any reduction of impact from the smaller centerline radius. The FHWA elected to use the Class C motorhome (6.1 to 9.8 m [20 to 32 feet]) as the design vehicle because using the Class B motorhome or passenger vehicle as the

design vehicle would knowingly create unsafe traveling conditions for vehicles that currently use the road, and because use of a shorter design vehicle would not further reduce impacts.

19. Use Federal funds to maintain the road; it is cheaper in the long run.

Title 23 of the United States Code, section 204(b) [23 USC 204(b)] states: "Funds available for public lands highways, park roads and parkways, and Indian reservation roads shall be used by the Secretary [of Transportation] and the Secretary of the appropriate Federal land management agency to pay for the cost of transportation planning, research, engineering, and construction of the highways, roads, and parkways, or of transit facilities within public lands, national parks, and Indian reservations." Maintenance is not one of the activities for which funds are authorized.

20. Alternative 6 allows the FHWA to do any type of construction and use any kind of surfacing that they want. The decision will be made later in the design phase without public input and involvement.

The FEIS and ROD are very specific about the amounts and locations of different levels of construction and the amounts and locations of different surface types. Under Alternative 6, approximately 63 percent of the road is rehabilitated, 18 percent undergoes light reconstruction, and 19 percent undergoes full reconstruction. Macadam (selected as the alternative surface type in the ROD) is proposed for 30 percent of the project, pavement with a chip seal is proposed for another 56 percent, and gravel with magnesium chloride would be used for the remaining 14 percent of the road. Information on the exact locations of the surface types in particular sections of the road can be found in Table 2 of the ROD.

The decision on surface types was based on comments received on the 100-meter test strips constructed on Guanella Pass Road, research performed on maintenance requirements of the alternative surface types, input from the land management and road maintaining agencies, and concerns regarding the need to preserve the rustic appearance of the road.

21. Unpaved portions of the road are being prepared for future paving. The road will be paved in a few years. Gravel portions will be paved. Macadam portions will not receive adequate maintenance and will be paved after they degrade.

The FHWA, FS, and Counties do not intend to pave the unpaved portions of the road. In the Forest Highway cooperating agreements with each of the Counties and the Town of Georgetown, a provision is included requiring the road maintaining agencies to adequately maintain the road once construction is complete.

22. Make existing paved surfaces macadam.

Of the alternative surface types considered for the existing gravel/dirt sections in the FEIS, macadam is the most durable and long lasting. However, macadam has half the life expectancy of asphalt pavement (10 years vs 20 years). In order to keep future maintenance costs at a minimum, the FHWA, in consultation with the cooperating agencies, decided to use pavement with a chip seal overlay on those portions of the road that are currently paved and on the section in Park County known as Shelf Road. The chip seal overlay appears more rustic than just asphalt

pavement, and it will help to preserve the underlying pavement structure. The chip seal overlay will use the same size surface aggregate (20 mm [3/4 inch]) as the macadam surface layer.

23. Keep the existing dirt/gravel sections as dirt/gravel.

Two of the project's objectives are to: 1) provide a road that reduces maintenance costs; and 2) address the existing soil sedimentation resulting from the road. Maintaining a gravel surface on the road is time consuming and expensive. The counties are experiencing great difficulty in adequately maintaining the road, as is evident by the many sections of road that are heavily washboarded and potholed. The existing dirt/gravel surface is producing sediment that is being deposited in adjacent vegetative communities and streams.

The request expressed in many public comments to maintain the existing dirt/gravel portions of the road as dirt/gravel runs counter to these two project objectives. In an effort to strike a balance in addressing these conflicting concerns, the FHWA identified alternative surface types consisting of various types of stabilized aggregate ranging from gravel with a dust palliative to macadam. Test strips using these surface types were constructed in 100-meter sections on Guanella Pass Road to provide the public an opportunity to test the look and feel of the surface types. After receiving public input and conducting further consultation with the cooperating agencies, the FHWA decided to use macadam on those portions of the road that have steep grades or are adjacent to streams in the attempt to reduce maintenance effort and sedimentation. The remaining unpaved portions of the road, a little over three miles, will be surfaced using gravel with a dust palliative.

24. Pave the entire road or pave more of the road.

Paving the entire road was considered under Alternative 2, which is evaluated throughout the FEIS. Alternative 6, with about 56 percent pavement, 30 percent macadam, and 14 percent gravel, is a compromise that is intended to provide improvements over the existing 48 percent paved and 52 percent dirt/gravel road while at the same time maintaining much of the rustic look and feel of the existing road.

25. The FEIS fails to fully assess the specific impacts of using macadam on 30 percent of the road, characterizing it as an "alternative" surface type. However, macadam is a hard surface that is asphalt-based, and effectively is the equivalent of paving. The FEIS should acknowledge that using macadam is comparable to alternatives that pave substantial portions of the road.

Most of the effects of using macadam are the same as the effects of the other alternative surface types. Where effects differ between alternative surface types, such as in potential effects from leaching or erosion of surfacing materials, these are evaluated in the FEIS. All of the alternative surface types are expected to result in the same traffic volume and associated secondary effects..

Pavement is composed of a wide gradation of materials, including very fine particles, which results in a dense texture very different from macadam. In order to provide a rougher ride, the pavement sections will have a chip seal using the same 20 mm (3/4 inch) aggregate as the macadam surface course. The macadam surface will be even rougher, however, due to the method of construction.

Alternative 6 uses different design standards than Alternatives 2-5. It is primarily these design standards (narrower roadway width, tighter curvature, more rehabilitation) that reduce the environmental impacts of Alternative 6, not the surfacing type.

26. What specific measures does managing the corridor as a rural local road entail?

Information regarding the management responsibilities required is presented in **FEIS Section II.D.6.**

27. Clear Creek County will not be able to monitor the road's classification as a rural local road because they can't maintain the road as it currently exists. The road will become a connector road.

It is primarily the design of the roadway, not management of the roadway, that will prevent the road from becoming a connector road. The narrow roadway width, sharp switchbacks, 9 percent and higher grades, and rougher ride provided by the gravel and macadam surfaces will all serve to discourage motorists from viewing Guanella Pass Road as a shortcut between I-70 and US 285.

28. It appears inconsistent that the FEIS eliminated alternatives that closed the road or make the road a four wheel drive only road because these alternatives would restrict access, while in other parts of the FEIS the build alternatives restrict access through design elements of the road.

The statements in the FEIS are not inconsistent. Balancing the needs of people with that of the environment requires that some restrictions be placed on where and how people recreate along Guanella Pass Road. However, closing the road (entirely or to passenger vehicles) would conflict with the current management of the area and with the byway designation of the road.

29. Closing the road is inconsistent with facilitating appropriate use of the Forest and discriminates against winter users.

Decisions regarding winter closure are not part of the proposed project. The level of maintenance on the road during the winter is under the jurisdiction of the road maintaining agencies (Park County, Clear Creek County, Town of Georgetown).

30. Do not close the road at any time of year.

Decisions regarding winter closure are not part of the proposed project. The level of maintenance on the road during the winter is under the jurisdiction of the road maintaining agencies (Park County, Clear Creek County, Town of Georgetown).

31. The road should be closed from January to May 1.

Decisions regarding winter closure are not part of the proposed project. The level of maintenance on the road during the winter is under the jurisdiction of the road maintaining agencies (Park County, Clear Creek County, Town of Georgetown).

32. Closing the road will lead to higher use by snowmobiles, and therefore more wildlife impacts and liability for the FS.

Even if the road was closed, snowmobiles are not allowed on the county-controlled highway. Currently most of the area near the pass, on either side of the road, is also closed to snowmobile use.

33. The design has an overabundance of guardrail and guardwall along the road, which is not needed for a design speed of 19 to 30 mph. Reduction in the use of guardrail/wall fosters slower speeds. Minimize retaining walls and guardrails.

Guardrail is proposed for 19 percent of the road. Guardwall is proposed for 4 percent of the road. The guardrail or guardwall is required due to the construction of fill walls or due to extremely steep slopes; design speed is not a deciding factor in this decision. In order to preserve the existing character of the road, the FHWA has decided to allow design exceptions and not install guardrails in some locations where it is warranted.

The FHWA consulted with FS Landscape Architects and specialists in the design of guardrails and retaining walls. The FHWA has tried to balance the need to minimize environmental impacts with the need to minimize the visual impacts created by retaining walls and guardrails. The use of retaining walls reduces the need for large cut and fills, which results in less new ground disturbance. The use of guardrails permits steeper sideslopes that helps reduce impacts to previously undisturbed areas. Without the use of retaining walls, substantial fills and the laying back of slopes would be required. Without the use of guardrail, slopes would have to be 1:3 or flatter, which would require larger fill slopes.

Alternative 6 is the result of the FHWA's effort to strike a balance between reducing environmental impacts and minimizing aesthetic impacts and alterations to the road's rustic and rural character. By reducing the roadway width, the size of the design vehicle, and minimum curve radius, the need for retaining walls, particularly at switchbacks, has been eliminated at many locations where they would be required by the other build alternatives. Where retaining walls are still needed, their lengths and heights have been greatly reduced compared to what was proposed for the other alternatives. With the reduction of fill-side retaining walls, guardrail, which is a required feature for fill-side retaining walls, has also been reduced.

During the final design phase of the project, the FHWA will continue to consider ways that the use of retaining walls and guardrail can be reduced while at the same time keeping new physical impacts at a minimum.

34. Don't lay back slopes.

Revegetation of roadway slopes is needed to prevent erosion. Steep slopes are difficult to revegetate, especially at higher altitudes. Laying back slopes makes revegetation easier but causes greater short-term impacts. Alternative 6 reflects a balanced effort to minimize environmental impacts while maximizing successful revegetation. Approximately 63 percent of the road will be rehabilitated, which does not include construction of new slopes, although all existing slopes will be evaluated on a case by case basis to determine whether revegetation efforts, including in some cases laying back slopes, would improve the vegetation cover.

35. Drainage at Guanella Pass Road and Rose Street needs to be addressed.

The Town of Georgetown has conveyed to the FHWA the difficulties that it has been encountering regarding drainage off of Guanella Pass Road. The FHWA has agreed to correct this problem by connecting the Guanella Pass drainage to the town system at 5th Street. This connection will involve the installation of curb and gutter on Rose Street from 2nd to 5th Streets.

36. Encourage appropriate signage of the corridor, not to exceed what is needed for safety and interpretation of the area.

Signs will only be used where needed for safety, or to provide directional or interpretive information.

37. Speed bumps are included as part of the project in order to discourage through traffic, and will detract from the rural, rustic character of the road.

Speed bumps are not included as part of the proposed project.

38. Police speed traps will be used in the area.

Speed enforcement is at the discretion of local law enforcement agencies, including the Sheriff's departments of Clear Creek County and/or Park County. Those agencies may be contacted regarding this concern.

39. Keep the existing parking areas unpaved.

Surfacing materials for the parking areas will be determined during final design. The FS prefers that parking areas be clearly defined with a hardened surface to provide more efficient parking and to reduce soil erosion and transport of sediment into wetlands and streams.

40. Adding more parking will increase the number of people and environmental degradation.

Currently, parking on busy weekends overflows the existing parking lots. People park along the side of the road, impacting habitat adjacent to the road. As part of the proposed project, parking will be formalized. In some areas there will be fewer parking spaces with the elimination of much of the unofficial, dispersed parking that occurs along the road. For example, currently more than 175 vehicles have been observed parking along the road in the summit area, while the new parking areas in this location will hold 110 vehicles. Once the formalized parking lots are full, cars will have to move on to other places, effectively limiting the number of people, and thereby reducing the impact of people on the surrounding habitat.

41. The construction of a new parking lot for sixty vehicles at the top of the pass disturbs untouched tundra

The proposed parking sites will serve to confine vehicles to the designed parking areas and road, avoiding the existing disturbance of the tundra cause by undesignated parking. In addition, these developed parking areas result in less visual intrusion to the view from vehicles passing over the scenic byway.

42. Mitigation of the impact of the new parking spaces on the wilderness relies on enforcement by the FS, which is cash strapped.

The FS has limited funding for enforcement, and therefore it is working in conjunction with the FHWA to identify design measures to prevent parking outside of designated/formalized parking areas so that enforcement needs will be minimized. These measures include earthwork grading, boulder placement, guardrails, signs, and other techniques. In addition, there will be less parking available at the summit than is currently available.

43. A toilet is not needed (at Guanella Pass).

Restrooms are not included in the proposed project.

44. Build many small (1-2 car) parking spots throughout the project, and a 5-7 car parking area at the old Geneva Basin Ski area.

There will be several 1-2 car pullouts constructed throughout the project area. The FS recognizes the need for parking at Geneva Ski Basin and will address this need during restoration of the area after it is used as a staging area and materials source.

45. Create more dispersed parking to allow more access.

The purpose of the project is shaped by the need to balance transportation requirements with the sensitive nature of the environment. Dispersed parking in undesignated areas is the cause of many vegetation and erosion issues today. Designated parking is one step in directing the appropriate locations for dispersed use and eliminating access to sensitive areas so that existing impacts can be restored. The goal of the FS is to accommodate levels of use consistent with current levels of use.

46. Walls, guardrails, and parking restrictions are being used to restrict public access.

Parking will be more formalized to prevent indiscriminate parking and associated overuse of sensitive areas. Guardrail or guardwall may be used to prevent encroachment into these sensitive areas.

47. The proposed project will contribute to the continued degradation of the Mt. Evans Wilderness and adjacent roadless areas from increases in recreation and traffic.

As many as 175 vehicles have been reported parked in and around the Guanella Pass parking areas on busy weekends. The proposed project will formalize the parking areas and provide space for 110 vehicles. This will help to reduce impacts created by recreationalists in the Mt. Evans Wilderness and adjacent roadless areas. The FS has committed to management measures that will also reduce impacts in this area, see the bullets in **ROD Section VI.G.1**.

48. The filling of wetlands and riparian areas, constructing parking lots at the pass, and removing and further fragmenting wildlife habitats are inconsistent with the project purpose, which states that, "The purpose is based on the

need to balance transportation requirements (including recreational access to FS lands) and roadway maintenance requirements with the sensitive nature of the environment."

The FHWA believes that Alternative 6 best fulfills the project's purpose. The project objective quoted above reflects the need to minimize environmental impacts while at the same time ensuring the safety of the traveling public, adequate access to FS lands, and reasonable cost for maintaining the resulting road. It was recognized during the scoping process that none of these concerns could be met with 100 percent satisfaction without sacrificing other project objectives. The safest and most inexpensively maintained road, like Alternative 2, would incur substantial direct and indirect effects to the environment. A road that had virtually no new impacts to the environment would not address the safety concerns, improvement of FS lands access (by facilitating or deterring such access), or high maintenance costs. As a result, the FHWA and its cooperators realized that they had to strike a balance between all of these concerns by ensuring that each were addressed to at least a minimum level of satisfaction.

49. The FHWA is avoiding its legal obligation to discuss direct and indirect impacts under NEPA by saying that there are contingencies beyond its jurisdiction (FEIS pg. III-9).

The FEIS identifies the direct and indirect effects that are known, and also identifies effects that are not known but are reasonably foreseeable. "Reasonably foreseeable" does not include speculative items or actions that may occur in the far distant future. Most project impacts, including the impacts caused by project-induced traffic growth, are indirect impacts. Indirect impacts are discussed throughout the FEIS.

50. The FEIS should address environmental impacts of use under the scenario of relatively unregulated access to the corridor.

Impacts of relatively unregulated access are identified under Alternatives 2-5, which do not include management responsibilities to regulate access. In addition, it is primarily the design of Alternative 6, not the management of the roadway, that will affect access to the corridor. The narrow roadway width, the sharp switchbacks, the 9 percent and higher grades, and the rough ride provided by the gravel and macadam surfaces will all serve to help regulate access to the corridor.

51. Increased recreational use will have environmental impacts on trails, the wilderness areas, campgrounds, and wildlife and their habitat.

The increase in recreational use of the trails, wilderness areas, and campgrounds and their resulting impacts was addressed in **FEIS Section III.B.4: Recreational Resources, FEIS Section III.B.5b: Threatened, Endangered, and Sensitive Species,** and **FEIS Section III.C.12: Cumulative Impacts**.

52. Increased numbers of larger vehicles will result in impacts in terms of noise, emissions, and damage to the road (requiring more maintenance effort).

Impacts for noise and air quality identified in the FEIS include effects from larger vehicles. The increase in the number of larger vehicles is expected to be proportional to the increase in traffic

in general. The road structure will be designed to withstand the climate and anticipated vehicle load.

53. Impacts of increased traffic on noise, emissions, stormwater runoff of fluids left behind on the road and in paved parking lots (e.g. oil, antifreeze), and wildlife and their habitat were largely ignored in the FEIS.

Impacts of the alternatives on noise, emissions, stormwater runoff, and wildlife are addressed in the FEIS under the following sections: Noise, Air Quality, Water Quality, and Plants and Animals. Many studies were performed and reports were prepared which analyzed impacts for these items in depth, and the results of these studies are summarized in the FEIS. Analysis of impacts of the different alternatives includes consideration of increased traffic.

54. Traffic projections for Alternative 4 (85 percent paved) are similar to Alternative 2 (100 percent paved), therefore Alternative 6 (86 percent paved) should have the same impacts on wildlife and other areas affected by traffic.

The projected increases of traffic for Alternatives 2 and 4 are similar because both have similar amounts of paving, and both involve reconstructing the most deficient portions of the road. Increased traffic results from not just paving the surface but also from widening the roadway section. Because Alternative 6 involves a narrower roadway with less reconstruction than Alternatives 2 or 4 (19 percent full and 18 percent light reconstruction [Alternative 6] vs 50 percent [Alternative 4] or 100 percent [Alternative 2] full reconstruction), and because Alternative 6 uses macadam which provides a rougher ride than pavement, the FHWA believes that the projected traffic increases for Alternative 6 will be less than what is projected for Alternatives, 2, 4, and 5.

55. The use of macadam will enable significant adverse impacts to the environment, including increased use of the road, higher speeds, more roadkill, increased recreation access by larger and more diverse vehicle types, and corresponding overuse of the Mt. Evans Wilderness and two adjacent roadless areas.

The road will remain a low-speed, rural road with steep grades and sharp curves. There will be increased traffic and associated effects to the environment as detailed in the FEIS. The macadam surface of Alternative 6 is not expected to change the proportions of passenger cars and larger vehicles.

56. The Naylor Lake Realignment would cause too much environmental damage (including destruction of old-growth forest) and creates two new switchbacks. Reducing the allowable grade creates the need for the Naylor Lake and Duck Lake realignments.

The existing condition consists of a dangerous combination of very steep grades (12 percent) and two very sharp curves, which requires large vehicles (e.g. a pickup truck with trailer) to travel partially in the oncoming lane to negotiate the curves, and does not accommodate the 30 to 50 km/h (20 to 30 mph) design speed. The proposed alignment consists of the design's minimum radius curves and grades up to 9 percent in those curves, which will accommodate the minimum

design speed (30 km/h [20 mph]) for the project. While some timber clearing will be required, no old-growth forests will be impacted.

57. The FHWA has failed to fully and completely analyze the changes in the character of the road by examining the real differences between the six alternatives.

Maintaining the rustic and rural character of the road was a primary concern in the development of Alternative 6. All of the changes made to the design elements (reduction of width, increase in rehabilitation work, reduction in design vehicle) were identified as ways to keep the road smaller in scope and more in keeping with its current character. Much of the analysis of the character of the road is included in **FEIS Section III.3: Visual Quality**. Visual simulations of the different surface types were included, as was a table comparing and contrasting for the six alternatives the various elements contributing to the character of the road (Table III-12).

58. To say that macadam maintains the character of the road better than asphalt or asphalt with chip seal fails to deal with the character of the road changing from a partially paved byway to a paved 2-lane highway.

Although the amount of gravel surfacing will be reduced, the road will remain a partially paved, low-speed rural road with steep grades and sharp curves. Both the macadam surface and the chip seal on the asphalt pavement will use 20 mm (3/4 inch) aggregate in order to approximate the look and feel of a gravel surface. The macadam sections will be rougher than the chip seal sections due to the method of construction.

59. The small town atmosphere of Georgetown will be changed if a connector highway is paved between I-70 and US 285.

The selected alternative is not designed as a connector road between I-70 and US 285 but rather as a rural local road to provide access to recreational resources. Long-term and short-term impacts to Georgetown's small-town atmosphere are addressed in **FEIS Section III.B.1a.**

60. Yellow pavement markings and roadside signs will detract from the character of the area.

Some pavement markings and signs will be required for safety reasons. The locations and lengths of pavement markings for the pavement with chip seal and macadam portions of the road will be determined during the final design phase of the project. Roadside signs will only be used where needed for safety, or to provide directional or interpretive information.

61. Reducing grades to 9 percent or less substantially changes the character of the road, and reducing grades to improve sight distance or for other reasons is not needed for design speeds of 19 to 30 mph.

For Alternative 6 approximately 1.0 km (0.6 miles), or less than 3 percent of the road, will be reduced in grade. Where grade exceeds 9 percent in full reconstruction areas, typically the grade will be reduced to a grade at or below 9 percent. Rehabilitation and light reconstruction areas will generally match the existing grade even if it exceeds 9 percent.

The FHWA determined that the maximum grade of 9 percent was needed due to the large number of sharp, minimum radius curves located throughout the project and the gravel surfacing proposed for portions of the road. The grade on sharp curves should not exceed 4 or 5 percent, although the design does include exceptions to this, such as at the Naylor Lake Realignment. Also, the steep grades can reduce traction during snowy or icy conditions. On gravel sections of roads with grades over 9 percent, the rate of gravel loss and washboarding becomes so great that proper maintenance becomes impractical, as can be seen along the steeper sections of Guanella Pass Road.

62. Research on impacts to other dude ranches does not relate directly to the dude ranch on this project.

The FHWA surveyed other dude ranches within Colorado to gain an understanding of the possible impacts the proposed project and its construction might have on Tumbling River Ranch (TRR), the dude ranch located along Guanella Pass Road, and to determine whether the businesses lost clientele due to road construction activities or changing the surface of the road. The FHWA recognizes that the circumstances associated with these dude ranches may differ from those experienced by TRR, and therefore what these dude ranches experience with respect to the road and/or construction might also differ from what TRR will experience. The feedback received on the surveys was used in conjunction with other site-specific information (interviews with the owners of TRR and Park County Road and Bridge staff, etc.) to develop a conception of what TRR might experience with respect to road construction.

63. Improvements in Georgetown will cause people to go through Georgetown more quickly without stopping, adding to congestion but not improving economics.

Although there will be increased traffic in and through Georgetown, the speeds of vehicles will not increase. Increased visitor traffic raises the potential to capture additional retail sales. See **FEIS Section III.B.1d: Local Economy** for more information.

64. People will no longer visit the area if the road is paved, impacting the economy.

Traffic volumes are predicted to increase at a faster rate after the road construction is completed. See **FEIS Section III.B.1b: Traffic Volumes.** Under Alternative 6 traffic volumes will be greater than under the no action alternative (Alternative 1), but less than the other build alternatives (Alternative 2-5).

65. The road will be too dangerous in the winter.

The more consistent alignment and width along with the placement of guardrail in high hazard sections will make the road safer during all seasons of travel.

66. The proposed project will not improve safety for residents on 2nd Street when they are backing out of their driveways.

There will be increased traffic on 2nd Street regardless of which alternative is selected, including the No Action Alternative. Increased traffic will require that residents use greater caution when backing out of driveways.

67. The road is a historic road.

The term "historic" holds different meanings in different contexts, and needs to be clarified with respect to its correct use in reference to Guanella Pass Road. There is a misconception that because Guanella Pass Road is a State-designated Scenic and Historic Byway, it is also listed or eligible for listing on the National Register of Historic Places (NRHP). This is not the case. The FHWA has evaluated the Guanella Pass Road in accordance with the criteria for which a place may be listed on the NRHP, and has determined that the road is not eligible for listing. The State Historic Preservation Officer (SHPO) concurs with this determination.

68. The FHWA needs to continue negotiations with the SHPO.

The FHWA will continue coordination with the SHPO.

69. Include a discussion of the effects of the 7th Street Bridge on the Georgetown-Silver Plume National Historic Landmark District.

At the request of Georgetown, the certified local government responsible for administering the Georgetown-Silver Plume National Historic Landmark District (GSPNHLD), the FHWA has agreed to construct the 7th Street Bridge to serve as mitigation for construction hauling impacts to the traffic and character of the GSPNHLD. The FHWA surveyed the area of potential effect for the bridge and determined that it would have no effect to cultural resources or to the district. The Memorandum of Agreement (MOA) (see **ROD Appendix D**) between the SHPO, the FHWA, and Georgetown includes a stipulation regarding the construction of the 7th Street Bridge and the commitment that the FHWA will consult with the SHPO and Georgetown to ensure that the bridge will be visually compatible with the historic character of the GSPNHLD.

70. Prepare an MOA that defines a treatment plan for any historic properties that are adversely affected by the project. The FHWA needs to continue cultural resource coordination with interested parties, including the SHPO, the Advisory Council on Historic Preservation, and Native American groups.

The signed MOA defining a treatment plan to mitigate for the adverse effects to the GSPNHLD is included in **ROD Appendix D**. Continued coordination is addressed in the MOA signed by the FHWA, the SHPO, and Georgetown. In their letter dated August 15, 2002, the Advisory Council on Historic Preservation declined to participate in consultation.

71. If the bypass bridge is constructed, consultation with the SHPO will be required.

The temporary construction bypass bridge is not included as part of the proposed project. The bypass bridge was considered in the DEIS, but was eliminated as a viable alternative in the FEIS

because the Town of Georgetown did not wish to pursue this option due to right of way concerns.

72. The *Sedimentation Report* doesn't show a problem with sediment from the road surface.

The report *Sedimentation Problems Identified on the Guanella Pass Road, Aquatic and Soil Resource Recommendations* (Arapaho-Roosevelt National Forest 2001) (referred to below as the *Sedimentation Report*) states, "All 19 kilometers (12 miles) of the currently unpaved segment of the Guanella Pass Road are producing sediment from the road surface… The WEPP [Water Erosion Prediction Project]: Road Model indicates that paving (or applying a hardened surface that does not form rills …) those sections of unpaved road that are adjacent to perennial streams could reduce sediment from entering the stream by 321 pounds per 300 feet of road per year, or 5,650 pounds per mile per year."

73. The FS *Sedimentation Report* is biased and reflects a conflict of interest.

The *Sedimentation Report* was written by the FS hydrologist in order to report professional concerns about erosion and sediment problems with the Guanella Pass road that impact forest resources including water, vegetation, and soil. The hydrologist was trying to ensure that the project meets forest direction to maintain or improve long-term stream health, minimize sediment from roads, and stabilize and maintain roads to control erosion. The hydrologist reviewed and referenced the United States Geological Survey (USGS) water quality reports, which also includes data and discussion of increased sediment from the road. Both the FS and USGS reports provide information that helps to understand the existing sedimentation problems.

74. Sedimentation will increase due to sand used on the road in winter for safety.

The proposed project will result in a net reduction of sediment due to slope stabilization and hardening of the surface. The coarse 20 mm (¾ inch) aggregate used on the surface of the pavement and macadam sections will provide good traction in most circumstances, so the need for sanding is not expected to increase. The small amount of sand that will be used on the hardened surface is minor compared to the sediment runoff from the existing gravel and dirt sections of road.

75. The FS had already decided to use macadam and/or asphalt along most of the road prior to the completion of the *Sedimentation Report*, and used the study to justify a decision that had already been made.

The FS's *Sedimentation Report* was released in October 2001. The identification of macadam as the preferred alternative surface type for portions of the road was a joint decision made in February 2002 between the Counties, the FS, and the FHWA.

76. The *Sedimentation Report* did not present a reasonable set of options in order to cure existing sedimentation problems, such as using crushed rock or placing berms or curbs to prevent sidecasting sediment into streams.

A hardened surface was only one recommendation in the *Sedimentation Report*. Other options included: reconstruction of fill slopes, stabilization of cut slopes, reconstruction of stream

crossings, additional culverts, repair and armoring of inside ditches, reshaping the road surface, and construction of retention areas. Other methods were discussed in interagency meetings, some of which increased impacts along the route (curb, sediment basins), and some required more costly maintenance (crushed rock, vacuum trucks).

77. The proposed project will cause direct loss of wetlands and wildlife habitat immediately adjacent to the road due not only to the actual 22-foot road width but also the installation of guardrails, retaining walls, foreslopes, backslopes, and ditch slopes.

Impacts shown in the FEIS are based on construction limits, which take into account these design elements. FHWA design engineers and environmental staff conducted field reviews with Environmental Protection Agency (EPA) and United States Army Corps of Engineers (USACE) representatives to show what has been done to avoid, minimize, and mitigate impacts. Alternative 6 has the least amount of wetland impact among the build alternatives.

78. There is no 404(b)(1) analysis for wetlands impacts, so it is not possible for the FHWA to say that Alternative 6 is the only "practicable" alternative.

The assessment of impacts to wetlands was performed in accordance with 404(b)(1) guidelines. Four conditions are needed to satisfy the guidelines: 1) there must be no practicable alternative, 2) the action cannot violate State water quality standards or jeopardize a Federally listed species, 3) the action cannot cause or contribute to significant degradation of Waters of the U.S., and 4) appropriate and practicable steps need to be taken to minimize impacts to the aquatic ecosystem. FHWA design engineers and environmental staff conducted field reviews with EPA and USACE representatives to review efforts that have been made to avoid, minimize, and mitigate impacts. Impacts were compared by alternative, and each impact site was examined to determine if a practicable alternative was available at that location. The action will not jeopardize any Federally listed species. It will not violate State water quality standards, and is expected to have a net beneficial effect on water quality. Measures to minimize harm from potential short-term impacts are included in the **ROD Section VI**. The EPA wrote: "The EPA is pleased that the Central Federal Lands Highway Division (CFLHD) has selected Alternative 6 …", and the USACE wrote: "The preferred alternative, identified in the FEIS as Alternative 6, is shown to be the least damaging … As such, it would be the only alternative that could be permitted." (see EPA and USACE letters in **ROD Appendix B**).

79. The project will fill wetlands, but the FEIS says that wetlands will be enhanced. This is inconsistent.

The FEIS states that any build alternative would impact wetlands, and that impacts will be mitigated. Drainage improvements to the roadway are expected to enhance wetland areas by reducing erosion and sedimentation.

80. Use on-site wetland mitigation rather than wetland banking. Wetland mitigation needs to be in the same watershed as the area of disturbance. Replace wetland with the same type of wetland that is impacted. Provide more analysis and disclosure of proposed wetland mitigation plans.

During a field review in coordination with the USACE and EPA, the old Geneva Basin Ski Area parking lot was found to be the most favorable potential site for wetland mitigation. This site will support a montane wetland/riparian complex similar to affected wetlands. Other sites will be considered as well, such as reclamation of wetlands where the road alignment is shifted to avoid two crossings of Duck Creek. The detailed wetland mitigation plan will be prepared during final design. Any wetland mitigation location will be as permitted by the USACE under a 404 permit. Wetland banking is no longer being considered because on-site mitigation appears feasible.

81. Do FHWA policies require mitigation for all wetlands to be impacted, or only for those currently protected by the USACE?

The FHWA has a nationwide goal of 1.5:1 wetland mitigation, and does not discriminate between jurisdictional and isolated wetlands. All wetlands impacted by the proposed project are considered to be jurisdictional wetlands.

82. Use natural materials on accompanying road structures.

During the final design phases of the project, the FHWA will conduct a workshop(s) to evaluate options for retaining walls and guardrail materials. The FHWA will coordinate the selection of the materials for these accompanying roadside structures with the cooperating agencies.

83. Guardrails will make it difficult for pedestrians and bicyclists to share the road.

Additional roadway widening is needed for guardrail to provide not only space for the posts, but also to allow drivers an extra "shy" distance between the edge of the road and the railing (see **FEIS Figure II-16f**). Where guardrails are used, 0.6 m (2 feet) of additional width is available beyond the shoulder, which can be used by bicycles and pedestrians. None of the alternatives specifically includes accommodation for bicycles in the design because designated bicycle lanes require shoulders with a minimum width of 1.8 m (6 feet). These wide shoulders were dropped from consideration due to environmental effects.

84. The FEIS should mitigate for the impacts of dispersed use rather than try to prevent it.

Many of the opportunities to mitigate for impacts caused by dispersed recreational use fall within the jurisdiction of the FS. The FS has committed to measures to help mitigate recreational impacts to wildlife (see **ROD Section VI.G.1**). Features that can be included in the road design tend to be those that control where recreational use occurs, such as location and design of parking lots and barriers to prevent indiscriminate access to sensitive areas.

85. The design of the proposed project will make it harder for the FS to adequately manage and accommodate existing uses.

The design of the proposed project will enhance the FS's ability to manage the area by clearly defining parking and discouraging off-road access. All existing uses will be accommodated. This project will help to control the number of users, which will minimize resource damage and provide a better experience for the visitor.

86. Do not allow all terrain vehicles in the area.

This issue is beyond the scope and purpose and need for this project. All terrain vehicle use would be more appropriately addressed during site specific FS travel management planning, or Forest Plan revisions. All terrain vehicle use is currently restricted to trails designated on FS maps and is illegal in much of the area near the project.

87. The new switchbacks at Naylor Creek will impact lynx habitat. There has been no Section 7 consultation with the United States Fish and Wildlife Service for lynx.

Mapping prepared for the Biological Assessment shows that the switchbacks at Naylor Creek are located within potential lynx foraging and denning habitat. This information was provided to the United States Fish and Wildlife Service (USFWS) during Section 7 consultation, which has been completed (see USFWS letter in **ROD Appendix B**). Formal consultation results are discussed in **ROD Section VIII.D.**

88. Protect willow stands from disturbance as much as possible, and control access from mid-November to mid-April.

Many of the willow stands along the road corridor are delineated as riparian wetlands, and avoidance has been included in the proposed project to the extent practicable. The FS has committed to closing the west-side parking lot at Guanella Pass during the winter, reconstructing the trail on the west side of the Pass to eliminate braided sections in willow habitat, and promoting the use of system trails only.

89. Continue to work with the Colorado Division of Wildlife and the USFWS regarding barriers to wildlife movement. Include wildlife crossing structures where appropriate.

Colorado Division of Wildlife (CDOW), USFWS, and FS personnel will be requested to attend design field reviews. They will help to determine the placement of drift fences that will guide small animals toward crossing locations, and their input will be considered in the design of retaining walls. Stream crossings will be designed to allow passage of fish, amphibians, reptiles, and small mammals where practicable. Several locations along the road have already been identified where crossings can be provided.

90. The FEIS commits to biological surveys of the entrance roads to the parking lots, but not to the lots themselves.

The report *Supplemental Biology Report, Proposed Guanella Pass Parking Lots* (ERO Resources Corporation 2002) was completed in September 2002. Field surveys were conducted for threatened, endangered, and sensitive plant species. Surveys for individual animal species were not needed to determine potential effects because sufficient information was available from previous studies.

91. The ROD should more fully specify mitigation measures and the process by which mitigation will be monitored and modified as necessary (example, drift fences for toads).

More detail has been added in the **ROD Section VI: Measures to Minimize Harm**, where possible. Preliminary locations (Stations 25+000 to 31-500 and Stations 21+000 to 23+000) for drift fences have been identified, but actual placement details will need to be determined during detailed design field reviews. CDOW and FS personnel will be requested to attend detailed design field reviews to help determine the locations of drift fences and other measures to minimize harm to plants and animals.

92. It will take years for disturbed areas to revegetate. Revegetation of tundra is not likely to work, and may take a century or more.

The FHWA has successfully provided revegetation for other high altitude projects, and recognizes that revegetation at high altitude is a difficult task. A consultant firm with high-altitude revegetation specialists has been employed to help prepare the revegetation plan.

Many years are normally required for plant communities to reach a climax condition after revegetation. It is important to provide ground cover rapidly to prevent erosion, so species are used that grow quickly to stabilize the soil. Rapidly growing species are supplemented with slower growing species to give a head start to the natural succession that ends in a climax plant community. Succession stages are not necessarily a worse condition for wildlife than final stages, because they often provide more habitat diversity and support a wider range of species. An advantage to working in tundra is that planting normally starts with the climax community species.

93. The Naylor Lake Realignment cuts through old growth forest and leaves an area that will be next to impossible to revegetate.

The Arapaho-Roosevelt National Forest has mapped vegetation communities in their portion of the project area. Alternatives 2-5 would cause a loss of 0.93 ha (2.3 acre) of old-growth forest. Alternative 6, with much more of the work staying within the existing road prism, will affect no old-growth forest. The Pike-San Isabel National Forest has not completed vegetation community mapping. The FHWA has successfully provided revegetation for projects in similar habitats.

94. The FHWA needs to provide mitigation for having an asphalt plant at Duck Creek, and needs proper controls for using chemicals in an environmentally sensitive area.

The FHWA will comply with all State and Federal laws and regulations for portable asphalt batch plants. Also, a special use permit will be obtained from the FS that will include environmental protection stipulations and mitigation requirements.

95. How will the project affect driveways?

If any driveway is impacted by the proposed construction work, the FHWA will ensure that the property will continue to have safe, unimpeded access to the roadway during and after construction.

96. How will the project affect fences and retaining walls?

If existing fences or retaining walls are impacted by the proposed construction, they will be replaced with in-kind or better materials.

97. The FEIS has not adequately disclosed the environmental impacts of using the proposed materials sources and is therefore in violation of NEPA.

The FEIS includes evaluation of the effects of using materials sources under the categories where the effects occur (e.g., noise impacts, impacts to plants and animals).

98. FHWA policy implementing 23 CFR Part 772.5 requires that noise mitigation must be considered anywhere future noise levels are predicted to exceed existing noise levels by 10 dB(A) or more. The FEIS discussion of noise impacts is legally insufficient as it relies on incorrect assumptions and fails to consider noise impacts of reasonably expected use of the road by noisier vehicles. The Wilderness and roadless areas should be considered under Criteria A rather than B.

23 CFR 772.5 states that traffic noise impacts are "impacts which occur when the predicted traffic noise levels approach or exceed the noise abatement criteria, or when the predicted traffic noise levels substantially exceed the existing noise levels." The statement in the report *Construction Noise Report for the Guanella Pass Road Improvement Project Final Report* (Hankard Environmental 2001, page 16) that says "noise mitigation must be considered anywhere future noise levels are predicted to exceed 10 dB(A)" is incorrect. The following is from *Highway Traffic Noise in the United States - Problem and Response* (FHWA 2000):

> There is no mandated definition for what constitutes a substantial increase over existing noise levels in an area. Most State highway agencies use either a 10 dBA increase or a 15 dBA increase in noise levels to define a "substantial increase" in existing noise levels. Several State highway agencies use a sliding scale to define substantial increase. The sliding scale combines the increase in noise levels with the absolute values of the noise levels, allowing for a greater increase at lower absolute levels before a substantial increase occurs.

The noise analysis predicted increases in noise levels varying from 1 to 3 dB(A) for Alternative 6, which is not substantial.

The computer program (noise model) used to predict noise levels requires input for number of vehicles by three types: autos, medium trucks, and heavy trucks. The design vehicle is included in the medium trucks, which have 2 axles and 6 wheels. There is no separate input for motorcycles, which normally comprise such a small percentage of traffic that they do not affect the analysis.

The noise analysis assumes that the percent of trucks will remain the same in the future; therefore the predicted future noise levels would be understated if the number of trucks using the route increases at a greater rate than traffic in general. Alternative 2 would be most likely to attract additional truck traffic. Doubling the percentage of heavy and medium trucks would result in about a 3 dB(A) increase in the predicted noise level. An increased percentage of trucks might also occur, but to a much lesser extent, under Alternative 3, 4, and 5. Alternative 6 contains design elements that are specifically intended to discourage the use of the route as a connector. The increase in percentage of trucks for Alternative 6 is expected to be in proportion to traffic in general.

The FHWA believes that Noise Abatement Criteria B is appropriate for all sections of this road. However, even the 57 dBA level specified under Criteria A would not be reached because the closest approach of the wilderness boundary to the proposed roadway centerline is about 90 feet, and this occurs at Station 24+280, where the noise level at 98 feet from the roadway centerline is predicted to be about 52 dBA.

99. The disturbance and possible use of mine dump material as road fill creates new problems of non-point source pollution on streams and wetlands. These impacts have not been adequately addressed.

The possible impact resulting from disturbance and use of mine dump material is addressed on **FEIS pg. III-143**. Some mine dump material will be excavated during construction of the selected alternative. The FHWA will employ the onsite management model developed by the Colorado Department of Transportation and the Colorado Department of Public Health and Environment to manage these mine dump materials. Based on this model any mine dump materials excavated will be reused as fill, and slopes exposed by the work that are less than 2:1 will be covered with soil and revegetated. The FHWA has committed to not using mine dump materials near seeps or culverts that could transport sediment or metals into local surface water or groundwater. Given these commitments, the mine dump materials will have no impacts to ground water or Waters of the United States.

100. Sites where mine dump material will be disturbed have not been evaluated as potential Section 4(f) resources.

All historic mine dumps were evaluated as potential Section 4(f) resources in the **FEIS Section III.C.4: Section 4(f) Resources.**

101. The cumulative effects section does not show how the impacts are interrelated, cumulative, and synergistic. Future impacts are largely ignored, including expansion of US 285 from Bailey to Fairplay.

The courts have commented that cumulative impacts are those that are reasonably foreseeable and not speculative or off in the distant future. The cumulative effects discussion in the FEIS includes all future actions that are budgeted or scheduled for an environmental review of some sort.

According to Kim Patel, the project manager of the US 285 project for the Colorado Department of Transportation, projected traffic decreases dramatically west of Bailey, and therefore he does not anticipate any comprehensive full reconstruction of US 285 from Bailey to Grant. (personal communication, May 2002)

102. The FEIS fails to adequately consider the future impacts of development along the Guanella Pass corridor, including selling parcels at Duck Lake and the development of mining claims into private housing.

The selling of parcels at Duck Lake was included in the cumulative effects discussion on **FEIS pg. III-161, III-162, and III-164**. Mining claims do not have surface rights, and although they can build structures required to access and extract mineral rights, they cannot build private housing.

103. The FEIS should discuss the cumulative effects of macadam.

Direct and indirect effects of alternative surface types (including macadam) are discussed throughout the FEIS. These include the effects caused by increased traffic, which partially results from an improved driving surface. More direct effects are discussed in **FEIS Sections III.B.2a, III.B.3, III.B.5, III.C.1, III.C.11b.** Cumulative effects are the combination of these direct and indirect effects when added to the direct and indirect effects of other projects or actions. These are discussed in **FEIS Section II.C.12**.

104. How will private landowners be compensated for their loss of land?

Any required right of way acquisition will be made in accordance with the *Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970* as amended by the *Uniform Relocation Act Amendments of 1987* (Uniform Act). The property is appraised, just compensation (which is never less than fair market value) is offered to the landowner, and the acquiring agency (Park County, Clear Creek County, and the Town of Georgetown for this project) and the landowner enter into negotiations. The acquiring agency will make every effort to reach an agreement with the landowner. If an agreement cannot be reached, the acquiring agency can acquire the property by exercising its power of eminent domain. The Uniform Act and additional information regarding rights and benefits under the Act can be found at Internet site http://www.fhwa.dot.gov/realestate.

105. Landowners have not agreed to any construction through their property. The FHWA is premature to proceed with the project until this is resolved.

Acquisition of any additional right of way or temporary construction easements needed for the project cannot begin until after completion of the NEPA process. All construction activities will take place within existing or acquired right of way or temporary construction easements.

106. Taking land of a private citizen without due process and the involvement of the court system would be a violation of their civil rights.

Government agencies often need to acquire private property for public programs or projects. This kind of acquisition has long been recognized as a right of the government and is known as "the power of eminent domain." However, the government cannot abuse this power. The Fifth and Fourteenth Amendments of the U.S. Constitution state that private property cannot be taken for public use without "just compensation." Also, see the response to R104, above.

107. The pavement will not last long due to elevation, increasing cost of maintenance.

The FHWA designs pavements to have a 20-year design life regardless of their location. The materials used for paving the road will be designed specifically to withstand the climatic conditions at high elevations. However, macadam and gravel surfaces have design lives of less than 20 years. The sections that have these surfaces may require more maintenance than the asphalt pavement sections.

108. The cost of maintaining the road in the winter will increase.

Because the Counties are likely to continue to maintain the road as they currently do during the winter season, maintenance costs are not anticipated to increase. The coarse 20 mm (¾ inch) aggregate used on the chip seal surface of the pavement and in the macadam sections will provide good traction in most circumstances, so the need for sanding is not expected to increase.

109. Close the road in winter and use the money saved on winter maintenance for general maintenance.

Clear Creek County is opposed to closing the road, and the FS is opposed to a "closure by no-maintenance" due to problems associated with illegal off-road use and rescue efforts. The Counties have concluded that the road will be closed when weather requires and opened when weather permits. This will result in savings over a full-time maintenance effort, and the monies saved could be used for general maintenance. See **FEIS Section II.E.3: Winter Closure** for a more complete discussion.

110. Pg III-158 states, "Less traffic means less maintenance." However, the FEIS also states that the project will increase traffic. The statements are inconsistent.

The sentence quoted above was in a discussion of the impacts of winter closure. If the road were to be closed in the winter (which is not included as part of the proposed project), annual traffic volumes would be less than if the road were not closed.

111. No mitigation has been provided for impacts to Tumbling River Ranch.

Working in cooperation with Park County, the FHWA has agreed to a number of measures designed to minimize construction impacts to local businesses including Tumbling River Ranch. These measures, including seasonal and time of day construction restrictions, are included in **ROD Section VI: Measures to Minimize Harm**.

112. Commitments to Tumbling River Ranch have not been kept.

The FHWA failed to notify Tumbling River Ranch, in accordance with an agreement, prior to allowing a survey helicopter to make a second flight over the area. Steps were taken immediately to ensure that this would not happen again. Measures to minimize harm identified in the ROD include regular communication with property owners.

113. Continue working with Clear Creek County during final design.

The FHWA will continue working with the FS, Counties, and Georgetown throughout the final design process.

114. The CDOW's March 23, 2002 letter was not included in the FEIS.

The CDOW letter was not included in the FEIS because it was commenting on a draft version of the FEIS that was not released to the public. The issues brought up in that letter were addressed within the published FEIS and this ROD. The CDOW's letter of October 3, 2002, along with its attached letter of March 23, 2002, is included in the **ROD Appendix B**.

115. Figure III-4 of the FEIS contains inaccuracies in boundary locations and property sizes.

Information regarding FEIS Figure III-4 has been added under **ROD Section VIII: Clarifications on the FEIS.**

INDEX 1:

Index of Comments Received on the FEIS Prior to its Publication

COMMENTS RECEIVED PRIOR TO RELEASE OF THE FEIS

COMMENT CLASSIFICATION	AGENCY OR ORGANIZATION	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	DATE RECEIVED*	COMMENT COVERED IN FEIS APPENDIX B	NEW COMMENT, NOT PREVIOUSLY ADDRESSED
I. AGENCIES/ ORGANIZATIONS	Colorado Mountain Club	Long	Chris		Email	8/14/02		R23
I. AGENCIES/ ORGANIZATIONS	Colorado Mountain Club and Citizens for Guanella Pass	Smith	Vera		Letter	9/17/02	2(A,C,D), 3(A,H), 5(A), 9(C), 12(D,E,G,H), 33	R1, R19, R23
II. PERSONAL COMMUNICATION		Alldredge	Robert L.	Wheat Ridge, CO	Form Letter #1	8/28/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Andes-Georges	Linda	Boulder, CO	Form Letter #1 (Modified)	9/5/02	2(A,C,D,E), 3(A,B), 5(B), 12(A,I), 29(F)	R6, R23, R72, R74
II. PERSONAL COMMUNICATION		Arbogast	Dennis	Lakewood, CO	Form Letter #1	9/23/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Asphaug	Rolf G.	Littleton, CO	Email	7/23/02	2(A)	R23
II. PERSONAL COMMUNICATION		Bennett	Benjamin	Pine, CO	Form Letter #1 (Modified)	7/30/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F), 32	R6, R23, R47, R65, R72
II. PERSONAL COMMUNICATION		Bennett	Dawn	Pine, CO	Form Letter #1 (Modified)	7/29/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Bensema	Jeanne	Boulder, CO	Form Letter #1 (Modified)	7/29/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Biggs, Jr.	Wade L.	Centennial, CO	Form Letter #1 (Modified)	7/24/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Blumenthal	Murray	Georgetown, CO	Form Letter #1	8/13/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Bolano	Jon	Bailey, CO	Form Letter #1 (Modified)	7/25/02	2(D), 3(A,B,J), 5, 9(C), 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Bollnow	Christopher	Bailey, CO	Form Letter #1 (Modified)	7/27/02	2(D,E), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Borakove	Floyd	Denver, CO	Form Letter #1 (Modified), via email	7/16/02	2(D,E), 12(A,D,I), 29(F)	R23, R47, R72
II. PERSONAL COMMUNICATION		Bramwell	Gary	Conifer, CO	Email	8/26/02	3(A), 12(A)	
II. PERSONAL COMMUNICATION		Brockwehl	Robert S.	Golden, CO	Email	7/29/02	9(F), 12(G)	R23
II. PERSONAL COMMUNICATION		Charbouneau	Nancy	Aurora, CO	Letter	9/6/02	12(G)	R23
II. PERSONAL COMMUNICATION		Ciancaglini	Alex	Denver, CO	Form Letter #1 (Modified)	7/31/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Davis	Kelly	Memphis, TN	Letter	9/29/02	12(I), 29(F)	R1, R23

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COMMENT CLASSIFICATION	**AGENCY OR ORGANIZATION**	**LAST NAME**	**FIRST NAME**	**CITY & STATE**	**FORM OF COMMENT**	**DATE RECEIVED***	**COMMENT COVERED IN FEIS APPENDIX B**	**NEW COMMENT, NOT PREVIOUSLY ADDRESSED**
II. PERSONAL COMMUNICATION		Day	Lori Jane	Coronado, CA	Form Letter #1	8/10/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		de Angelis	John	Evergreen, CO	Form Letter #1 (Modified)	7/28/02	2(A,D), 3(A,B,J), 5, 9(C), 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Edwards	James		Form Letter #1 (Modified)	7/25/02	2(D,E), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Elliott	Sandy		Email	7/24/02	10(A), 11(B)	
II. PERSONAL COMMUNICATION		Ertel	Jeanine & Thom	Aurora, CO	Form Letter #1	8/28/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Fishburn	Steven	Austin, TX	Form Letter #1	8/17/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Flanagan	Karen	Denver, CO	Letter	8/28/02	3(A)	R23
II. PERSONAL COMMUNICATION		Fodero	Margaret	Denver, CO	Form Letter #1 (Modified)	9/5/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Glienke	Albert J.	Bailey, CO	Form Letter #1 (Modified)	8/6/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Glienke	Kirk R	Bailey, CO	Form Letter #1 (Modified)	8/6/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R1, R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Glienke	Kirk R	Bailey, CO	Letter	8/6/02	3(F,I)	
II. PERSONAL COMMUNICATION		Greene	Chris	Conifer, CO	Form Letter #1	7/27/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Griffin	Steve	Longmont, CO	Form Letter #1 (Modified)	8/20/02	2(D), 3(A,B,J), 5, 8(C), 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Hall	Steve	Littleton, CO	Form Letter #1	9/5/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Hansen	Marcia	Conifer, CO	Form Letter #1 (Modified)	7/28/02	2(B,C,D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Hargitt	Joni		Letter	8/28/02		
II. PERSONAL COMMUNICATION		Hart	Wm. Mark	Georgetown, CO	Form Letter #1	7/31/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Hayward	Gary & Gail	Littleton, CO	Form Letter #1	8/28/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Hearty	Thomas M.	Denver, CO	Form Letter #1 (Modified)	9/16/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R11, R23, R47, R72

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II. PERSONAL COMMUNICATION		Hedberg	Kim	Boulder, CO	Form Letter #1 (Modified)	8/2/02	2(D), 3(A,B,E,J), 5, 9(E), 12(D,I), 15(B), 29(F)	R6, R23, R47, R72, R107
II. PERSONAL COMMUNICATION		Hoeschele	Janis	Parker, CO	Form Letter #1	7/29/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Hoeschele	John H.	Parker, CO	Form Letter #1	7/29/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Holloway	Laura	Boulder, CO	Form Letter #1	8/16/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Hopper	George	Ft. Collins, CO	Form Letter #1	8/28/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Hopper	Rachel	Ft. Collins, CO	Form Letter #1	8/28/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Huber	Patrick	Davis, CA	Letter	9/5/02	2(A,C), 3(E)	R23
II. PERSONAL COMMUNICATION		Hulme	Margaret C.	Dunwoody, GA	Form Letter #1	9/5/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		James	Lynda	Bailey, CO	Form Letter #1 (Modified)	8/7/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R22, R23, R33, R34, R39, R40, R47, R72, R73
II. PERSONAL COMMUNICATION		Jarboe	JoLynn	Denver, CO	Letter	9/5/02	2(D), 3(D,H), 12(I), 29(F)	R23
II. PERSONAL COMMUNICATION		Johnson	Lonnie R.	Denver, CO	Form Letter #1 (Modified)	7/20/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Johnson	J. Donald & Maureen	Oceanside, CA	Form Letter #1 (Modified)	8/1/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Johson	Dave	Aurora, CO	Letter	9/13/02	11(B), 12(G)	
II. PERSONAL COMMUNICATION		Keller	Sean	Clarksville, MD	Form Letter #1	8/29/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Kenney	Fran	Littleton, CO	Letter	8/29/02	2(E)	R23
II. PERSONAL COMMUNICATION		Kerekes	Jary & Sharon	Littleton, CO	Form Letter #1 (Modified)	9/5/02	2(D), 3(A,B,J), 5, 12(I), 29(F)	R6, R23, R47
II. PERSONAL COMMUNICATION		Knoshaug	Eric & Jessica	Golden, CO	Form Letter #1 (Modified)	9/16/02	2(D), 3(A,B,J), 5, 8(B), 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Koerner	Bill	Manitou Springs, CO	Email	7/23/02	2(A)	R23
II. PERSONAL COMMUNICATION		Kunkel	Michael	Salida, CO	Form Letter #1	8/8/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72

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COMMENT CLASSIFICATION	AGENCY OR ORGANIZATION	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	DATE RECEIVED*	COMMENT COVERED IN FEIS APPENDIX B	NEW COMMENT, NOT PREVIOUSLY ADDRESSED
II. PERSONAL COMMUNICATION		Kuss	Jean	Littleton, CO	Form Letter #1 (Modified)	7/18/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R1, R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Lane	Mary Lou	Aurora, CO	Form Letter #1 (Modified)	8/5/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Lankford	Polly	Georgetown, CO	Form Letter #1 (Modified)	7/31/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R1, R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Larke	Fred	Denver, CO	Form Letter #1	8/28/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Larsen	Carol	Aurora, CO	Form Letter #1 (Modified)	8/28/02	2(D), 3(A,B,J), 5, 9(C), 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Lawrence	Nancy	Denver, CO	Form Letter #1	8/29/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Legoski	Marla	Conifer, CO	Form Letter #1 (Modified)	8/15/02	2(C,D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Lien	David A.	Colorado Springs, CO	Form Letter #1 (Modified)	7/27/02	2(A,C,D), 3(H), 12(A,D,I), 29(F)	R6, R47, R23, R89
II. PERSONAL COMMUNICATION		Louvar	Lynn E.	Bailey, CO	Form Letter #1	7/22/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Lupo	J. Eric	Boulder, CO	Email	7/23/02	2(A,C), 7(A)	R1, R23
II. PERSONAL COMMUNICATION		Martel	Janet	Lakewood, CO	Form Letter #1 (Modified)		2(A,D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		McCurdy	Elizabeth A.	L. Compton, RI	Form Letter #1 (Modified)	8/24/02	2(D), 3(A,B,E,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		McFarlane	Terry	Littleton, CO	Form Letter #1	9/13/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		McGuire	Krista	Pine, CO	Form Letter #1 (Modified)	7/29/02	2(A,C,D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		McPherson	Jeffery J.	Broomfield, CO	Form Letter #1	8/2/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Metzler	Andrew	Pine, CO	Form Letter #1 (Modified)	7/29/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Metzler	Nicol	Pine, CO	Form Letter #1 (Modified)	7/29/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Meyer	Linda	Highlands Ranch, CO	Form Letter #1	8/29/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Miller	Kay	Evergreen, CO	Email	7/23/02	17, 9(C)	

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II. PERSONAL COMMUNICATION		Morris	CG	San Diego, CA	Form Letter #1 (Modified)	7/30/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Morris	Jane	Littleton, CO	Form Letter #1	8/29/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Morris	Liz	Palmerton, PA	Form Letter #1 (Modified)	8/26/02	2(B,D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Morrow	Bruce	Denver, CO	Letter	7/26/02	2(B), 3(A), 5(A,D), 12(D)	
II. PERSONAL COMMUNICATION		Mott	Dave	Arvada, CO	Telephone Conversation Record	9/13/02		R95
II. PERSONAL COMMUNICATION		Munchiando	DeLoris	Idaho Springs, CO	Form Letter #1 (Modified)	8/13/02	2(A,C,D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Munchiando	Paul	Idaho Springs, CO	Form Letter #1 (Modified)		2(A,D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Muncy	John E.		Form Letter #1 (Modified)	8/24/02	2(B,C,D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Neumayr	Sandy	Westminster, CO	Form Letter #1	9/16/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Oak	Ed	Loveland	Form Letter #1	7/18/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Parker	Don & Mary	Golden, CO	Form Letter #1	8/29/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Paulson	Helen S.	Lakewood, CO	Form Letter #1 (Modified)	9/23/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Paulson	Pamela R.	Denver, CO	Form Letter #1 (Modified)	9/9/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R11, R23, R47, R72
II. PERSONAL COMMUNICATION		Peters	John & Donna	Georgetown, CO	Form Letter #1 (Modified)	7/31/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Petersen	Rosemary	Denver, CO	Letter	9/9/02	2(D), 3(A,J)	
II. PERSONAL COMMUNICATION		Porter	Stephanie	Conifer, CO	Form Letter #1 (Modified)	7/31/02	2(A,B,D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Rea	Malcolm	Denver, CO	Letter	7/30/02	2(A), 3(A), 9(F), 12(D)	R23, R47
II. PERSONAL COMMUNICATION		Reagan	Martin	St. Louis, MO	Letter	9/5/02	2(A,D), 3(A), 12(D)	R47
II. PERSONAL COMMUNICATION		Riegger-Krugh	Cheryl	Morrison, CO	Form Letter #1 (Modified)	9/6/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R11, R23, R47, R72

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II. PERSONAL COMMUNICATION		Roberts	Richard	Bailey, CO	Form Letter #1	7/31/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Rold	Cynthia L.	Littleton, CO	Form Letter #1	9/5/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Romero	Nancy	Conifer, CO	Form Letter #1 (Modified)	7/30/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Rufner	Donna L.	Littleton, CO	Form Letter #1	8/28/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Saum	George H	Agate, CO	Email	7/23/02	2(A), 3(A), 29(A)	R23, R108
II. PERSONAL COMMUNICATION		Scherer	Janet	Golden, CO	Form Letter #1 (Modified)	8/28/02	2(D), 3(A,B,J), 5, 9(C), 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Scherer	Susan	Denver, CO	Form Letter #1 (Modified)	9/13/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R11, R23, R47, R72
II. PERSONAL COMMUNICATION		Seeley	Crystal		Letter	8/18/02	17	R23
II. PERSONAL COMMUNICATION		Shimm	Shirley	Georgetown, CO	Form Letter #1 (Modified)	8/19/02	2(D), 3(A,B,J), 5, 12(A,D,I), 29(F)	R1, R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Siebermann	Marcia		Form Letter #1	7/29/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Simmons	M	Denver, CO	Form Letter #1 (Modified)	7/28/02	2(A,D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Simmons	W.P.	Bailey, CO	Letter	10/9/02	10(A,B), 11(B), 22	
II. PERSONAL COMMUNICATION		Sims	Lorene	Denver, CO	Letter	9/5/02	2(D), 3(J), 5(A), 12(D)	
II. PERSONAL COMMUNICATION		Slingsby	Bea	Wheat Ridge, CO	Letter	8/7/02	2(C), 3(A), 5(D), 12(D,I), 29(F)	R23
II. PERSONAL COMMUNICATION		Smiley	Dave	Westminster, CO	Form Letter #1	9/5/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Snowden	Timothy M.	Penrose, CO	Form Letter #1	9/5/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Sparks	Ann	Morrison, CO	Letter	8/9/02	3(A), 12(D)	
II. PERSONAL COMMUNICATION		Sparks	Jack	Morrison, CO	Letter	8/9/02	3(A), 12(D)	
II. PERSONAL COMMUNICATION		Spomor	Unreadable		Form Letter #1 (Modified)	7/28/02	2(A,D), 3(A,B,J), 5, 9(C), 12(D,I), 29(F)	R6, R23, R47, R72

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II. PERSONAL COMMUNICATION		St. John	Cheryl		Letter	8/28/02	2(A,C), 3(H), 5(D), 9(C)	
II. PERSONAL COMMUNICATION		Steuck	Gordon	Denver, CO	Form Letter #1 (Modified)	7/26/02	2(A,D), 3(A,B,J), 5, 9(C), 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Stimson	Nancy A.	Fairplay, CO	Form Letter #1 (Modified)	7/22/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R1, R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Swanson	Richard M.	Conifer, CO	Form Letter #1 (Modified)	7/30/02	2(D,E), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Thompson	John	Conifer, CO	Form Letter #1 (Modified)	7/31/02	2(D), 3(A,E,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Thompson	Suzanne	Conifer, CO	Form Letter #1	7/31/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Tindall	Charles G.	Evergreen, CO	Letter	8/29/02	2(A,D), 3(A), 12(I), 29(F)	R1, R23
II. PERSONAL COMMUNICATION		Tracy	Rita	Erie, CO	Form Letter #1 (Modified)	7/22/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F), 32	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Turpin	Amy	Castle Rock, CO	Form Letter #1	7/28/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Turock	Eva	Denver, CO	Form Letter #1	8/2/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Walker	Barbara	Denver, CO	Form Letter #1 (Modified)	8/28/02	2(D), 3(A,B,J), 4(B), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Weist	James L.	Greenwood Village, CO	Letter	7/19/02		
II. PERSONAL COMMUNICATION		Wendel	Janice	Bailey, CO	Form Letter #1	8/14/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Whalen	Terese	Littleton, CO	Form Letter #1	8/9/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Windmuller	Douglas	Pine, CO	Form Letter #1 (Modified)	7/23/02	2(D), 3(A,B,J), 5, 12(D,I), 15(D), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Windmuller	Mary	Pine, CO	Form Letter #1 (Modified)	7/23/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Yarcho	Ken	Denver, CO	Email	7/22/02	11	
II. PERSONAL COMMUNICATION		Yarcho	Ken	Denver, CO	Email	8/14/02	2(G), 3(K)	R43, R56
II. PERSONAL COMMUNICATION		Zillioux	Rob	Conifer, CO	Form Letter #1	7/25/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72

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II. PERSONAL COMMUNICATION		Zimmerman	Robert	Houston, TX	Form Letter #1 (Modified)	8/18/02	2(D), 3(A,B,J), 5, 12(D,E,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Zito	Tanya Lee	Englewood, CO	Letter	8/30/02	2(A,B,E), 9(F)	R23
II. PERSONAL COMMUNICATION		Zyzda	Mike	Littleton	Email	7/31/02	2(A), 3(A)	R1, R23
IV. PETITION		Petition #1-1987 Signatures			Petition #1 – Colorado Mountain Club Petition	9/17/02	3(A), 26(B), 28(I), 33, 35(A,C,D)	R1, R19, R82

* For letters that were forwarded by the Colorado Mountain Club, the date on the letter is used.

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I. AGENCIES/ ORGANIZATIONS	Audubon Society of Greater Denver	Reetz	Pauline P.	Denver, CO	Form Letter #1 (Modified)	11/23/02	3(A,B,J), 5, 12(D,I), 29(F)	R6, R47, R72, R77
I. AGENCIES/ ORGANIZATIONS	Clear Creek Board of County Commissioners	Watrous Sorensen Poirot	Fabyan JoAnn Robert J.	Georgetown, CO	Letter	11/27/02	22	R113
I. AGENCIES/ ORGANIZATIONS	Colorado Division of Wildlife	Hoover	Scott	Denver, CO	Letter	10/23/02	22	R81, R88, R89, R90, R114
I. AGENCIES/ ORGANIZATIONS	Colorado Historical Society	Contiguglia	Georgiana	Denver, CO	Letter	10/23/02	22	R71
I. AGENCIES/ ORGANIZATIONS	Colorado Historical Society	Contiguglia	Georgiana	Denver, CO	Letter	11/12/02		
I. AGENCIES/ ORGANIZATIONS	Department of the Army, Corps of Engineers	Carey	Timothy T.	Littleton, CO	Letter	9/27/02	22	R80
I. AGENCIES/ ORGANIZATIONS	Georgetown Mountain Inn	Wilson	Tom	Georgetown, CO	Letter	11/12/02	22	
I. AGENCIES/ ORGANIZATIONS	Georgetown Promotion Commission	Wilson	Tom	Georgetown, CO	Letter	11/12/02	22	
I. AGENCIES/ ORGANIZATIONS	Save Open Lands Vistas and the Environment	Howell	Sue	Silver Plume, CO	Letter	11/22/02	2(D), 3(A,E), 5(D), 12(D)	R1, R23, R93
I. AGENCIES/ ORGANIZATIONS	Sierra Club, Mount Evans Group	Baciagalupi	Tod	Evergreen, CO	Letter	11/27/02	2(F,G), 3(A), 5(D), 7(A), 12(A), 23(G), 24(A), 26(B)	R2, R7, R17, R18, R21, R25, R33, R41, R42, R49, R50, R51, R52, R53, R54, R55, R56, R57, R58, R61, R75, R76, R78, R80, R87, R92, R93, R97, R98, R99, R100, R101, R102, R103
I. AGENCIES/ ORGANIZATIONS	Southern Rockies Ecosystem Project	Smith	Jean C.	Boulder, CO	Letter	11/27/02	2(A,C,D), 3(A,E,H,J)	R1, R56
I. AGENCIES/ ORGANIZATIONS	U.S. Department of the Interior	Eckhardt	Cheryl	Denver, CO	Letter	11/26/02	22	R36, R69, R70
I. AGENCIES/ ORGANIZATIONS	U.S. Department of the Interior	Wegman-French	Lysa	Denver, CO	Letter	11/21/02		R68, R69
I. AGENCIES/ ORGANIZATIONS	U.S. Environmental Protection Agency	Cody	Cynthia	Denver, CO	Letter	11/29/02	22	R80, R91
II. PERSONAL COMMUNICATION		Anonymous			Letter	10/24/02	17	R3, R10, R11, R14, R15, R20, R26, R28, R30, R32, R44, R45, R46,

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								R84, R85, R94
II. PERSONAL COMMUNICATION		Anderson	Clyde R.	Idaho Springs, CO	Letter	11/7/02	5, 8(B,G), 9(C), 17	R1, R6
II. PERSONAL COMMUNICATION		Anderson	Coralue	Georgetown, CO	Form Letter #1 (Modified)	12/2/02	2(B,C,D,E), 3(A,B,E,J), 5(D,F), 7(B), 9(E,G), 12(A,D,E,I), 29(F)	R1, R6, R13, R21, R23, R25, R27, R37, R38, R41, R47, R60, R72, R79, R83, R92, R110
II. PERSONAL COMMUNICATION		Armbrust	Lewis E.	Evergreen, CO	Letter	10/21/02	2, 17	R12, R23, R86
II. PERSONAL COMMUNICATION		Armbrust	L E	Powderhorn, CO	Letter	10/7/02	2(A), 3(A), 9(C), 17, 21	R31, R86
II. PERSONAL COMMUNICATION		Barlow	Claire	Denver, CO	Letter	10/15/02	3(B), 17	
II. PERSONAL COMMUNICATION		Baer	Robin M	Lakewood, CO	Letter	10/23/02	2(D)	R1, R3, R23
II. PERSONAL COMMUNICATION		Baynes	Judith A.	Georgetown, CO	Letter	9/20/02		R35, R63, R66, R96
II. PERSONAL COMMUNICATION		Brady	Shayne	Denver, CO	Letter	11/21/02	3(A), 5(D), 17	
II. PERSONAL COMMUNICATION		Bramwell	Gary	Conifer, CO	Email	10/9/02	2(C,D), 3(A), 22	
II. PERSONAL COMMUNICATION		Buckley Jones	Angie Christopher	Bailey, CO	Form Letter #1	11/11/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Charbonneau	Nancy J.	Aurora, CO	Letter	10/16/02	19	R23
II. PERSONAL COMMUNICATION		Cook	Margaret	Denver, CO	Letter	11/4/02	2(B,C,D), 12(D)	R1, R3, R23
II. PERSONAL COMMUNICATION		Coupe	Joanne	Evergreen, CO	Letter	11/25/02	2(A,D), 3(A,I), 5(D), 7(B), 12(A), 24(A)	R21, R23, R25, R40, R47, R56, R60, R92
II. PERSONAL COMMUNICATION		Crawford	Gail	Bailey, CO	Letter	10/7/02	10(A,C), 23	
II. PERSONAL COMMUNICATION		Crosby	Dawn E.	Arvada, CO	Form Letter #1	10/16/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Curtis	B. Sean	Castle Rock, CO	Form Letter #1 (Modified)	10/11/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72

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II. PERSONAL COMMUNICATION		Deszcz-Pan	Maria	Lakewood, CO	Letter	10/7/02	3(B), 17	
II. PERSONAL COMMUNICATION		Drnovsek	Charles & Shirley	Westminster, CO	Letter	10/18/02	2(C), 3(B), 12(A)	R19, R23
II. PERSONAL COMMUNICATION		Dugan	Megan	Grant, CO	Letter, E-mail	11/24/02		R104, R105, R106
II. PERSONAL COMMUNICATION		Dugan	Scott	Grant, CO	Letter	11/25/02	12(D,G), 17, 32	R1, R4, R16, R23
II. PERSONAL COMMUNICATION		Fibbe	Ben	Colorado Springs, CO	Form Letter #1 (Modified)	11/4/02	2(D,E), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Fisher	Christy L	Lakewood, CO	Letter	10/22/02	3(A), 12(A)	R23
II. PERSONAL COMMUNICATION		Fox	Katie & Alan	Morrison, CO	Letter	10/10/02	17	
II. PERSONAL COMMUNICATION		Goff	Mary Ellen & Michael	Denver, CO	Letter	10/18/02		R23
II. PERSONAL COMMUNICATION		Gordon	Ann Marie	Littleton, CO	Form Letter #1 (Modified)	11/5/02	2(A,C,D), 3(A,B,H,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Gordon	Jim	Santa Fe, NM	Letter	10/8/02	4(E)	R1, R5, R9, R16, R62, R111
II. PERSONAL COMMUNICATION		Greene	Christopher	Conifer, CO	Letter	10/30/02	3(A), 9(C), 12(C,D)	R23
II. PERSONAL COMMUNICATION		Glover	Russ	Bailey, CO	Email	9/28/02	10(A,C), 23	R23
II. PERSONAL COMMUNICATION		Hall	Larry	Fairplay, CO	Letter	10/7/02	2(D), 17	
II. PERSONAL COMMUNICATION		Holmes	Julie		Telephone Conversation Record	12/3/02		R115
II. PERSONAL COMMUNICATION		Holmes	Julie	Georgetown, CO	Letter	12/23/02		R115
II. PERSONAL COMMUNICATION		Johnson	Candice	Denver, CO	Form Letter #1 (Modified)	10/11/02	2(A,C,D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Keller	Annette	Aspen, CO	Form Letter #1 (Modified)	10/16/02	2(D), 3(A,B,E,J), 5(A,D,F), 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Kenney	Francene J.	Littleton, CO	Letter	10/16/02	3(J), 12(D)	

COMMENTS RECEIVED AFTER RELEASE OF THE FEIS								
COMMENT CLASSIFICATION	**AGENCY OR ORGANIZATION**	**LAST NAME**	**FIRST NAME**	**CITY & STATE**	**FORM OF COMMENT**	**DATE RECEIVED**	**COMMENT COVERED IN FEIS APPENDIX B**	**NEW COMMENT, NOT PREVIOUSLY ADDRESSED**
II. PERSONAL COMMUNICATION		Klish	Megan E.	Colorado Springs, CO	Form Letter #1 (Modified)	11/6/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R64, R72
II. PERSONAL COMMUNICATION		Kloppenbork	Ken	Lakewood, CO	Letter	10/4/02	12(E), 17	
II. PERSONAL COMMUNICATION		Lebherz	B. Maria	Denver, CO	Form Letter #1 (Modified)	10/18/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Logterman Logterman	Jim Earl	Denver	Letter	12/20/02	2(D), 3(A), 12(D)	R3
II. PERSONAL COMMUNICATION		Lohaus	Thomas H	Conifer, CO	Form Letter #1 (Modified)	11/5/02	2(C,D), 3(A,B,H,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Martinez	Sammie L	Kiowa, CO	Form Letter #1 (Modified)	10/30/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		McFadden	Ralph R	Arvada, CO	Letter	10/16/02	3(H), 12(D,E)	
II. PERSONAL COMMUNICATION		McGuire	Krista	Pine, CO	Letter	10/23/02	2(A,C), 3(B)	
II. PERSONAL COMMUNICATION		Newell	Mary Anne	Golden, CO	Form Letter #1 (Modified)	10/5/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Oen Thompson	Jan L. Donald R.	Denver, CO	Form Letter #1	11/19/02	2(D), 3(A,B,J), 5, 12(D,I), 29(F)	R6, R23, R47, R72
II. PERSONAL COMMUNICATION		Olincy	Ruth & Dan	Evergreen, CO	Letter	10/23/02	2(D), 3(E), 8(D), 24(A)	
II. PERSONAL COMMUNICATION		Pan	Chun	Lakewood, CO	Letter	10/8/02	8(E)	R23
II. PERSONAL COMMUNICATION		Payne	Richard L	Georgetown, CO	Letter	10/1/02	2(D), 21	
II. PERSONAL COMMUNICATION		Peletier	Sandy	Denver, CO	Letter	10/16/02	2(D), 3(A)	R23
II. PERSONAL COMMUNICATION		Peters	John	Georgetown, CO	Letter	10/9/02	17, 32	
II. PERSONAL COMMUNICATION		Pinkowitz	Susan F.	Denver, CO	Letter	10/16/02	2(B), 3(A), 5(B,F), 9(C), 12(D), 16(B,D), 17, 24(C,E), 26(B), 32, 33	R1, R25, R47, R92, R109, R112
II. PERSONAL COMMUNICATION		Plutt	Steve	Lake George, CO	Letter	11/19/02	7(A), 26	
II. PERSONAL COMMUNICATION		Renne	Karen S.	Pine Junction, CO	Letter	11/19/02	2(B,C,D), 3(A,J), 4(E), 8(B), 9(A), 17	

COMMENTS RECEIVED AFTER RELEASE OF THE FEIS								
COMMENT CLASSIFICATION	**AGENCY OR ORGANIZATION**	**LAST NAME**	**FIRST NAME**	**CITY & STATE**	**FORM OF COMMENT**	**DATE RECEIVED**	**COMMENT COVERED IN FEIS APPENDIX B**	**NEW COMMENT, NOT PREVIOUSLY ADDRESSED**
II. PERSONAL COMMUNICATION		Rettig	Margo	Denver, CO	Letter	10/16/02	3(E,J), 5(D), 12(E), 17	
II. PERSONAL COMMUNICATION		Richardson	Roberta M.	Evergreen, CO	Letter	11/27/02	2(B,D), 3(A), 24(A)	R1, R21, R47, R92, R92
II. PERSONAL COMMUNICATION		Rithie	Loye	Westminster, CO	Letter	10/2/02	2(A), 3(B), 17, 26(B)	R20, R67
II. PERSONAL COMMUNICATION		Rothman	Judith	Denver, CO	Letter	10/21/02	2(A), 3(E)	R23
II. PERSONAL COMMUNICATION		Schiel	Katie A.	Thornton, CO	Letter	10/17/02		
II. PERSONAL COMMUNICATION		Simpson	Gary	Westminster, CO	Letter	10/11/02	2(B,D,E), 3(A), 12(D,G,I), 29(F)	R47
II. PERSONAL COMMUNICATION		Stapp	Gerald L.	Aurora, CO	Letter	10/15/02	10(A,C)	R24
II. PERSONAL COMMUNICATION		Sterrit	Kent	York, PA	Letter	10/29/02		
II. PERSONAL COMMUNICATION		Stipek	Peg Clover	Denver, CO	Letter	10/1/02	3(A,H), 9(C), 32	R23
II. PERSONAL COMMUNICATION		Swanson	Bradley D	Denver, CO	Letter	12/18/02	2(D), 9(F), 12(D)	R1
II. PERSONAL COMMUNICATION		Swinehart	David R.	Pine, CO	Letter	11/15/02	2(C), 3(A,C,E), 5(B), 17, 24(A)	R40, R56, R92
II. PERSONAL COMMUNICATION		Usher	Bill & Ginny	Bailey, CO	Letter	10/11/02	23	
II. PERSONAL COMMUNICATION		Waldman	Lawrence S.	Morrison, CO	Letter	10/22/02	22	R24
II. PERSONAL COMMUNICATION		Waters	Molly	Conifer, CO	Letter	10/18/02	2(C,D), 3(A,H)	
II. PERSONAL COMMUNICATION		Wendel	Henry	Bailey, CO	Letter	10/29/02 & 11/4/02 (identical letters)	12(I), 24(C), 26	R1, R8
II. PERSONAL COMMUNICATION		Wendel	Janice	Bailey, CO	Letter	10/23/02 & 11/1/02 (identical letters)	12(I), 24(C), 26	R1, R8
II. PERSONAL COMMUNICATION		Wendel	Jannah	Bailey, CO	Letter	11/4/02	12(I), 24(C), 26	R1, R8
II. PERSONAL COMMUNICATION		Willhour	Jane H.	Ft. Collins, CO	Letter	10/25/02	2(D), 12(I)	R23, R47, R59
II. PERSONAL COMMUNICATION								

APPENDIX B:

Interagency Correspondence

COLORADO
HISTORICAL
SOCIETY

The Colorado History Museum 1300 Broadway Denver, Colorado 80203-2137

October 21, 2002

John Knowles
Project Manager
U.S. Department of Transportation
Federal Highway Administration
Central Federal Lands Highway Division
555 Zang Street
Mail Room 259
Lakewood, Colorado 80220

RE: Colorado Forest Highway 80, Guanella Pass Road, HFHD-16

Dear Mr. Knowles:

Thank you for the opportunity to comment on the Final Environmental Impact Statement (FEIS) for the proposed project on Colorado Forest Highway 80 (CO 80), also known as Guanella Pass Road.

Our observations on the six alternatives are as follows.

1. Alternative #1 will have no effect on historic resources because nothing will be done to the roadway.
2. Alternative #4 will have no effect on the mining resources between Georgetown and the pass. However, this alternative will cause an adverse impact on the Leavenworth Mountain switchbacks visible from the Georgetown Silver Plune National Historic Landmark District (GSPNHLD).
3. Alternative #6 will have some impact on the mining sites, but less impact on the Leavenworth Mountain switchbacks.
4. Alternatives #2, 3 and 5 are less acceptable from a historic preservation and archaeological perspective because they maximize disturbances in both the mining area and the GSPNHLD viewshed.

The above comments are based upon the effect not only on historic properties but also on properties not eligible for the National Register of Historic Places. The Preferred Alternative (Alternative #6) is acceptable because it protects the historic view from the GSPNHLD.

We have an additional concern regarding the proposed summit parking area that we understand is a tangential project. First, in our letter to you of June 11, 2002 we supported temporary fencing to block access to 5CC70 during construction. However, in addition we also feel that the parking lot farthest from the road would be constructed in an area that has not been adequately surveyed to determine whether archaeological resources will be uncovered or disturbed. Additional survey work will be necessary before construction commences.

Second, as mentioned in the June 11, 2002 letter, the Colorado Central Railroad Grade (5CC9) listed in the National Register of Historic Places and contributing to the GSPNHLD will be adversely affected by construction of an access bridge. Please refer to that letter regarding the required consultation process if such a bridge is constructed.

If you have any questions, please contact Dan Corson, our Intergovernmental Services Director, at 303/866-2673, dan.corson@chs.state.co.us/

Sincerely.

Georgianna Contiguglia
State Historic Preservation Officer

COLORADO
HISTORICAL
SOCIETY

The Colorado History Museum 1300 Broadway Denver, Colorado 80203-2137

November 7, 2002

John Knowles
Project Manager
U.S. Department of Transportation
Federal Highway Administration
Central Federal Lands Highway Division
555 Zang Street
Mail Room 259
Lakewood, Colorado 80220

RE: Colorado Forest Highway 80, Guanella Pass, HFHD-16

Dear Mr. Knowles:

This letter is to acknowledge the telephone conversations of this week between Dan Corson, our Intergovernmental Services Director, and Stephen Hallisy, archeologist with your office. In our letter to you of October 21, 2002 we expressed concern that the area in which the new parking lot is to be located may not have been adequately surveyed. Mr. Hallisy explained the maps and described to our satisfaction that the area has been surveyed. Therefore, we withdraw that comment.

Please contact Mr. Corson with any questions at 303/866-2673 or dan.corson@chs.state.co.us/

Sincerely,

Mark Wolfe

for Georgianna Contiguglia
State Historic Preservation Officer

OFFICE OF ARCHAEOLOGY AND HISTORIC PRESERVATION
303-866-3392 * Fax 303-866-2711 * E-mail: oahp@chs.state.co.us * Internet:http://www.coloradohistory-oahp.org

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
DENVER REGULATORY OFFICE, 9307 S. WADSWORTH BOULEVARD
LITTLETON, COLORADO 80128-6901

September 25, 2002

Mr. Richard Cushing
Environmental Planning Engineer
Federal Highway Administration
Central Federal Lands Highway Division (HFHD-165)
555 Zang Street, Suite 259
Lakewood, Colorado 80228

Dear Mr. Cushing:

Reference is made to your proposed improvements to Colorado Forest Highway 80, Guanella Pass Road (also know as Park County Road 62, Clear Creek County Road 381, Forest Development Road) that this office has assigned number 199580927. The work would start in Grant, Colorado and extend 23.6 miles north to Georgetown Colorado. The project area would include work in both Park and Clear Creek Counties.

Our office has reviewed the Final Environmental Impact Statement (FEIS) in two (2) volumes for the Guanella Pass Road and found the information to be clearly and concisely arranged despite a comprehensive review and analysis of alternatives explored by your office. It is, indeed, refreshing that such a complicated, intricate undertaking can be documented in a logical, easy-to-read document. The entire team is to be complimented.

Along these same lines, the latest field review was conducted in a similar fashion with competent, informative personnel who had already addressed those issues relevant to designing and documenting the least environmentally damaging, practicable alternative. Several mitigation sites were explored at that time with one or two potentially suitable sites. We noted your reference to exploring the possibility of utilizing mitigation banks. We would be reluctant to accept this form of mitigation unless it was clearly shown that on-site or near-site mitigation areas were not available.

The preferred alternative, identified in the FEIS as Alternative 6, is shown to be the least damaging to the aquatic ecosystem and fulfills all the elements of your project purpose. As such, it would be the only alternative that could be permitted.

If you have any further questions, please contact me or Ms. Margaret Langworthy at the Denver Regulatory Office. We can be reached through the use of the address above or by telephone at (303) 979-4120.

Sincerely,

Timothy T. Carey
Chief, Denver Regulatory Office

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
764 Horizon Drive, Building B
Grand Junction, Colorado 81506-3946

IN REPLY REFER TO:
ES/GJ-6-CO-02-F-024
MS 65412 GJ

November 26, 2002

Mr. Larry C. Smith, P.E.
Federal Highway Administration
Central Federal Lands Highway Division
555 Zang Street, Room 259
Lakewood, Colorado 80228

Dear Mr. Smith:

In accordance with section 7 of the Endangered Species Act (Act) as amended (16 U.S.C. 1531 et seq.) and the Interagency Cooperative Regulations (50 CFR 402), this is the U.S. Fish and Wildlife Service's (Service) final biological opinion on impacts to federally-listed endangered and threatened species associated with Federal Highway Administration (FHWA) funding of the reconstruction of Forest Highway 80 (Guanella Pass Road), in Clear Creek and Park Counties, Colorado. The project begins in Grant, Colorado (section 4, T. 7 S., R. 74 W.) and ends at Georgetown, Colorado (section 17, T. 74 S., R. 74 W.). The project will be constructed by the Federal Highway Administration, Central Federal Lands Highway Division. We received your biological assessment (BA) for this project on March 4, 2002. Delays in issuing this opinion were the result of our waiting for additional information related to lynx issues, from other biologists within the Service, working on similar issues.

This biological opinion is based on the project proposal as described in the February 25, 2002, report by Western Consulting Group/FHWA entitled "Biological Assessment, Guanella Pass Road (Colorado Forest Highway 80) as well as information contained in the Preliminary Final Environmental Impact Statement (EIS), subsequent conversations and e-mails.

The Service concurs with the FHWA's determination that the proposed project will have no effect on the endangered southwestern willow flycatcher, (*Empidonax trailii extimus*), threatened bald eagle (*Haliaeetus leucocephalus*), threatened greenback cutthroat trout (*Oncorhynchus clarki stomias*), or threatened *Eutrema penlandii* (Penland alpine fen mustard). In addition, the Service concurs with the FHWA's determination that the proposed project is likely to adversely affect the threatened Canada lynx (*Lynx canadensis*). Therefore, this document represents our biological opinion on the effects of reconstruction of Guanella Pass Road on the Canada lynx.

CONSULTATION HISTORY

In accordance with regulations at 50 CFR 402, the FHWA initiated informal consultation with the Service on November 9, 1993. On November 22, 1993, the Service provided a list of candidate and listed threatened or endangered species which could occur in the project area or be affected by the project. On April 24, 1998, FHWA submitted a BA that addressed potential effects of the Guanella Pass Road Improvement Project on these species. The BA concluded that the project would have no effect on any listed species. In a letter dated June19,1998, the Service concurred with this determination.

On July 8, 1998, the population of Canada lynx within the contiguous United States was proposed for listing as a threatened species under the ESA (FR 63; 130). In response to this listing, FHWA requested concurrence for a revised finding of "may affect, but not likely to adversely affect the lynx" for the On July 8, 1998, the population of Canada lynx within the contiguous United States was proposed for listing as a threatened species under the ESA (FR 63; 130). In response to this listing, FHWA requested concurrence for a revised finding of "may affect, but not likely to adversely affect the lynx" for the "build" alternatives on May 3, 1999. In response, the Service determined on August 10, 1999, that the build alternatives may adversely affect the lynx, based on information available at the time, and recommended that FHWA initiate formal Section 7 consultation if the lynx was listed as threatened or endangered.

Subsequently, FHWA identified a need for a new alternative (Alternative 6) for the project as a result of public input through the National Environmental Policy Act (NEPA) process. This alternative provides for repair of the road and addresses safety and road maintenance concerns with minimal road improvements that would occur primarily on the existing road platform. Design standards for rural local roads would be utilized under Alternative 6 which reduce the design speed and provide for sharper roadway curves and a narrower roadway width than any of the build alternatives previously analyzed in the 1998 BA.

On March 24, 2000, the Service published the final rule listing the contiguous United States distinct population segment of the Canada lynx as threatened. On April 5, 2001, representatives from the FHWA and the Service met in Glenwood Springs to discuss the Guanella Pass Road improvement project and potential effects of the project on the lynx. On November 27, 2001, representatives of the FHWA and the U.S. Forest Service (USFS) met with the Service to inspect the project site and review activities proposed under Alternative 6. At that time, the Service also provided guidance concerning the content of this BA.

During the consultation process, it was recognized that FHWA lacks the authority to address indirect adverse effects related to management of parking areas after completion of the project. Although all impacts to the Canada lynx have been appropriately addressed within FHWA's BA for this project, specific reasonable and prudent measures, to minimize take, cannot be appropriately administered through this biological opinion. Management of parking areas falls under the jurisdiction of the USFS, and specifically the Arapaho/Roosevelt, and the Pike and San

Isabel National Forests. Therefore, adverse effects related to continued management of the new parking area at the summit of Guanella Pass will be addressed by the Arapaho/Roosevelt National Forest, and shall be addressed by a separate action under USFS letterhead (Dennis Lowry, USFS, pers. comm.).

BIOLOGICAL OPINION

Background

Guanella Pass Road traverses 38 km (23.6 mi) of forest, shrubland, and alpine tundra habitat in the Front Range of the Rocky Mountains in north-central Colorado. Elevations along the road rise from approximately 2,615 m (8,600 feet) at Grant, Colorado, to 3,547 m (11,669 feet) at Guanella Pass, and then descend to 2,588 m (8,512 feet) at Georgetown, Colorado, which is at the northern terminus of the road.

The proposed project lies within the physiographic zone known as the Central Rocky Mountains and the biological zone known as the Ponderosa Pine-Douglas-fir Section of the Rocky Mountain Forest Province of the Dry Domain according to the USFS Ecoregions classification (USFS 1978). Life zones (Marr 1961) traversed by Guanella Pass Road include the following:

> The Upper Montane Zone characterized by upland dominance of ponderosa pine (*Pinus ponderosa*), Douglas-fir (*Pseudotsuga menziesii*), limber pine (*Pinus flexilis*), and (in the southern Colorado Front Range, including Guanella Pass) Rocky Mountain bristlecone pine (*Pinus aristata*).
>
> The Subalpine Zone characterized by the dominance of Engelmann spruce (*Picea engelmannii*) and subalpine fir (*Abies lasiocarpa*).
>
> The Alpine Zone characterized by the dominance of elk sedge (*Kobresia myosuroides*) in turf communities found on moderately wind exposed upland sites, cushion plant and rock dominated communities on the wind blasted sites, and low willow (*Sailx planifolia* and *S. brachycarpa*), hairgrass (*Deschampsia caespitosa*) meadow, and small fens and ponds in relatively wind protected sites.

Disturbance (principally fire) has left large areas of high Upper Montane and Subalpine Zone dominated by lodgepole pine (*Pinus contorta*). Aspen (*Populus tremuloides*) woodlands occur on mesic upland sites. Wetlands occur in valleys along South Clear Creek, Duck Creek and Geneva Creek and are dominated primarily by willows (*Sailx* spp.), alders (*Alnus tenuifolia*), and river birch (*Betula fontinalis*). Colorado blue spruce (*Picea pungens*) and narrowleaf cottonwood (*Populus angustifolia*) are dominant species in forested wetlands.

The first 8 km (5 miles) of the road north of Grant, Colorado follows Geneva Creek (a tributary of the North Fork of the South Platte River), which flows south through a canyon bordered by

steep east- and west-facing slopes. Lodgepole pine, Douglas-fir, ponderosa pine, and bristlecone pine form stands that are interspersed with rock outcrops and cliffs. Cottonwood, blue spruce, and willow-alder-birch stands occur along the valley bottom adjacent to Geneva Creek.

At kilometer 8 (mile 5), the road passes through the lower elevational limit of the subalpine forest at an elevation of approximately 2,918 m (9,600 feet) as it crosses the south end of Geneva Park, an extensive rich fen wetland. The road follows the eastern edge of Geneva Park for approximately 3.2 km (2 miles) before climbing into the subalpine forest which is dominated by Engelmann spruce and subalpine fir. Between kilometer 11 and kilometer 18 (mile 7 and mile 11) the road traverses subalpine forest and willow shrublands along the Duck Creek drainage while climbing 426 m (1,400 feet) in elevation. Wet meadows (wet sedge-grass meadow complex, Marr 1961) occur intermixed with extensive willow shrublands between 3,100 and 3,162 m (10,200 and 10,400 feet) elevation. At kilometer 18 (mile 11) the road enters an ecotone formed by the upper limits of the subalpine forest, which is represented by interspersed stands of Engelmann spruce, subalpine fir, bristlecone pine, limber pine, spruce-fir krummholz, and alpine tundra.

The road traverses alpine tundra between kilometer 20 and kilometer 21 (mile 12.5 and mile 13), and reaches an elevation of 3,547 m (11,669 feet) at Guanella Pass, the drainage divide between the Geneva Creek watershed, to the south, and the South Clear Creek watershed, to the north. East of the road the tundra vegetation consists of a mosaic of willow shrubland (*Sailx planifolia*), wet sedge meadows (*Carex scopulorum*), and alpine avens meadows (*Acomastylis rossii*). The more wind exposed areas are covered by elk sedge turf. The road continues through the alpine tundra and then descends into the subalpine forest at kilometer 23 (mile 14), at an elevation of 3,465 m (11,400 feet). The road continues its descent through the subalpine forest to an elevation of 3,283 m (10,800 feet) at kilometer 24 (mile 15), at which point it reaches the South Clear Creek valley floor. Beyond this point the existing route parallels the valley floor, which supports a mosaic of sedge meadow and willow wetlands interspersed with beaver ponds and stream habitat.

The road crosses South Clear Creek at kilometer 27 and again at kilometer 28 (mile 16.8 and mile 17.1). From this point, the road continues along the west edge of the South Clear Creek valley between kilometer 29 and kilometer 32 (mile 18 and mile 20) while passing through an area of development which includes the Public Service Company of Colorado's Cabin Creek Hydro Power Generating Station, reservoir, and associated power lines; Clear Lake; and Green Lake. The Cabin Creek generating station is fenced with 3 m(7 feet) high chain link, and the road parallels approximately 300 m (1,000 feet) of this fencing.

The road traverses rock and talus fields and mixed stands of subalpine forest while descending along the west edge of the valley from elevation 2,979 m (9,800 feet) at kilometer 32 (mile 20) to elevation 2,614 m (8,600 feet) at kilometer 38 (mile 23.6), the northern end of the route at Georgetown, Colorado.

road platform, as well as transportation of gravel and/or asphalt from two material source and staging areas to specific segments where light reconstruction would take place. Guardrail is constructed in selected areas. Ditches and drainage structures (culverts) are repaired or replaced. Retaining walls are constructed in areas where cut and fill slopes are unstable and the recontoured slopes are revegetated to control erosion.

Full reconstruction involves construction outside the limits of the existing cut and fill slopes, regrading of the existing road platform, and hauling of fill and roadbase materials to specific areas undergoing improvements along the route. Resurfacing likewise involves extraction, transportation, and placement of fill and roadbase, regrading and compaction of the road platform, as well as transportation of gravel and/or asphalt from locations (to be determined) outside the project area to specific locations undergoing improvement along the route. Minor realignments involve removal of vegetation along the existing road, construction of a modified road platform, and resurfacing. Ditches and drainage structures (culverts) are repaired or replaced. Retaining walls are constructed in areas where cut and fill slopes are unstable, and the recontoured slopes are revegetated to control erosion.

The average width of new disturbance for full reconstruction is about 21 meters. For the 18 percent of the road that will receive this level of construction, the total disturbance amounts to about 14 ha (35 acres). Most of this will be new cut and fill slopes that will revegetate.

New parking areas are planned at Grant Byway Entrance (4+100), Duck Creek Winter Closure (12+300), and Naylor Lake Winter Closure (24+600). Expansion of existing parking areas is planned at Abyss Trailhead (9+400) and Silverdale/Georgetown Byway Entrance (35+800). At Guanella Pass Summit (21+800), two new parking areas are planned to replace the existing parking area.

Parking Area	Total # of Spaces	Area of New Disturbance	
Grant Byway Entrance	15	0.11 ha	(0.26 acre)
Duck Creek Winter Closure	30	0.19 ha	(0.47 acre)
Naylor Lake Winter Closure	35	0.23 ha	(0.56 acre)
Abyss Trailhead	45	0.38 ha	(0.93 acre)
Silverdale/GT Entrance	20	0.12 ha	(0.29 acre)
Guanella Pass	110	0.95 ha	(2.35 acre)

While the existing road is 48 percent paved and 52 percent gravel, the reconstructed road will be 68 percent paved and 32 percent either gravel or Macadam (Macadam uses asphalt cement to bind very coarse aggregate, which gives the road a rough appearance and feel). The decision to use a combination of roadway surfaces responds to concerns regarding erosion and sedimentation control, minimizing maintenance efforts and costs, and maintaining a rustic and rural character to the road.

Index of Interagency Correspondence

Agency	Sender	Date	General Subject
Clear Creek County	Clear Creek Board of County Commissioners	11/27/02	Cover letter for Statement of Concurrence
Colorado Division of Wildlife	Scott Hoover, Northeast Regional Manager	10/3/02 (including 3/23/2002 letter)	Comments on the FEIS
Colorado Historical Society	(Unintelligible) for Georgianna Contiguglia, State Historic Preservation Officer	10/21/02	Comments on the FEIS
Colorado Historical Society	Mark Wolfe for Georgianna Contiguglia, State Historic Preservation Officer	11/7/02	Withdraw one of the comments on theFEIS
Department of the Army, Corps of Engineers	Timothy T. Carey, Chief, Denver Regulatory Office	9/25/02	Comments on the FEIS
US Department of the Interior, Fish and Wildlife Service	Allan R. Pfister, Assistant Colorado Field Supervisor	11/26/02	Biological Opinion
US Department of the Interior, National Park Service	Lysa Wegman-French, Historian	11/18/02	GSPNHLD consultation
US Department of the Interior, National Park Service	Cheryl Eckhardt, NEPA/106 Specialist	Undated (received 11/26/02)	Comments on the FEIS
US Environmental Protection Agency	(Unintelligible) for Cynthia Cody, Director, NEPA Program	11/27/02	Comments on the FEIS

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Agency	Sender	Date	General Subject
Clear Creek County	Clear Creek Board of County Commissioners	11/27/02	Cover letter for Statement of Concurrence
Colorado Division of Wildlife	Scott Hoover, Northeast Regional Manager	10/3/02 (including 3/23/2002 letter)	Comments on the FEIS
Colorado Historical Society	(Unintelligible) for Georgianna Contiguglia, State Historic Preservation Officer	10/21/02	Comments on the FEIS
Colorado Historical Society	Mark Wolfe for Georgianna Contiguglia, State Historic Preservation Officer	11/7/02	Withdraw one of the comments on theFEIS
Department of the Army, Corps of Engineers	Timothy T. Carey, Chief, Denver Regulatory Office	9/25/02	Comments on the FEIS
US Department of the Interior, Fish and Wildlife Service	Allan R. Pfister, Assistant Colorado Field Supervisor	11/26/02	Biological Opinion
US Department of the Interior, National Park Service	Lysa Wegman-French, Historian	11/18/02	GSPNHLD consultation
US Department of the Interior, National Park Service	Cheryl Eckhardt, NEPA/106 Specialist	Undated (received 11/26/02)	Comments on the FEIS
US Environmental Protection Agency	(Unintelligible) for Cynthia Cody, Director, NEPA Program	11/27/02	Comments on the FEIS

Clear Creek County

POST OFFICE BOX 2000
GEORGETOWN, COLORADO 80444

TELEPHONE: (303) 569-3251 • (303) 679-2300

November 27, 2002

John Knowles
FHWA
555 Zang Street, Room 259
Lakewood, CO 80228

Dear John:

Clear Creek County is pleased to submit our "Statement of Concurrence" for the Guanella Pass Road Improvement Project. After many long years of effort on behalf of this road, we believe this project is ready for a Record of Decision. Throughout the public process leading us to this point we have heard much debate regarding the level of work that will be performed and the effects that the work will have on the environment and on the character and use of the road. While we acknowledge these concerns, we believe that the road design reflected in the FEIS is appropriate for Guanella Pass and we truly appreciate the compromises that have been made by each of the partners and the accommodations that have been made by the FHWA's design team.

Clear Creek County remains sensitive to the issues raised in our public hearings. We desire to stay involved in the final design issues identified in the FEIS — particularly those related to parking lot design and location, and visual impacts of the road and its related structures. In addition, we desire to continue working with our partners to develop and implement policies that will support the appropriate management of the vehicles and visitors on this Scenic Byway and on the public lands served by the road.

Thank you and we look forward to working with you in the future.

Sincerely,

CLEAR CREEK BOARD OF COUNTY COMMISSIONERS

Fabyan Watrous

Fabyan Watrous, Chairman

Jo Ann Sorensen

Jo Ann Sorensen, Commissioner

Robert J. Poirot

Robert J. Poirot, Commissioner

cc: Park County Board of County Commissioners
Town of Georgetown Board of Selectmen
U.S. Forest Service, Donna Mickley and Dan Lovato

STATE OF COLORADO
Bill Owens, Governor
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WILDLIFE
AN EQUAL OPPORTUNITY EMPLOYER

Russell George, Director
6060 Broadway
Denver, Colorado 80216
Telephone: (303) 297-1192

For Wildlife-
For People

October 3, 2002

Mr. Richard Cushing
Environmental Planning Engineer
Federal Highways Administration
Central Federal Lands Highway Division
Attn: Environment (CO-80)
555 Zang Street – Room 259
Lakewood, CO 80228

RE: Guanella Pass FEIS

Dear Mr. Cushing:

Our staff has reviewed the document and we have the following comments.

The Colorado Division of Wildlife (CDOW) wrote a letter dated March 23, 2002 with our comments of the Preliminary FEIS. This letter was not included in the Appendix A of the FEIS (Interagency Correspondence), and we want to be certain that this letter was received by your agency. A copy of the original letter is enclosed for your review.

Comments expressed in the 3/23/02 letter and previous letters still apply and are not restated here unless they specifically apply to the current document.

We feel that the preferred alternative is the least damaging to wildlife habitat and populations of wildlife in the immediate area. While some areas will be extensively reconstructed there remain areas that will not be significantly altered. We understand and appreciate the efforts to reduce encroachment of the road into the stream. Additionally, we appreciate the efforts to avoid impacts to the greatest extent possible.

While the preferred alternative will serve to minimize habitat impacts, it is likely that there will still be some impacts to the surrounding landscape. As the project proceeds, we ask that you consult with our staff, particularly concerning boreal toad issues. We would like to work closely with you to be sure that the construction minimizes impacts to these important habitats.

The Guanella Pass area is very important wintering habitat for white-tailed ptarmigan, especially areas of willow carrs. It is important that both the willow stands be protected from disturbance as much as possible and that human use of the area be controlled from mid-November to mid-April. The EIS

commits to a biological survey of the entrance roads to the parking lots but not to the lots themselves. We suggest that planning for this vicinity be coordinated with our staff to assure that the future of ptarmigan in the area is reasonable considered.

One of our major points in a letter that was dated 12/22/2000 was the identification of five specific areas of concern regarding retaining walls serving as barriers to wildlife movement. While the FEIS does not address these specific locations you do commit to coordinating with both US Fish and Wildlife service and CDOW throughout this process. We would be glad to assist with this aspect. Creating a retaining wall that serves the desired engineering purpose while at the same time allowing for free movement of wildlife is of high priority to the CDOW. Please also refer to that letter for specific design and timing recommendations.

We hope that these comments are helpful. If you have questions, please contact Habitat Biologist Eric Odell at 303-659-7004, ext 116.

Sincerely,

Scott Hoover
Northeast Regional Manager
Colorado Division of Wildlife

cc: Eric Odell, Habitat Biologist
Mindy Clark, Aquatic Biologist
Ron Oehlkers, DWM
Anne Mangusso, DWM
Karen Hardesty, Watchable Wildlife

STATE OF COLORADO
Bill Owens, Governor
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WILDLIFE
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Russell George, Director
6060 Broadway
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For Wildlife-
For People

March 23, 2002

Jennifer Corwin
Federal Highway Administration
555 Zang Street Mail Room 259
Lakewood, CO 80228

RE: Guanella Pass Preliminary Final Environmental Impact Statement

Dear Ms Corwin:

Our staff has reviewed this document and we have the following comments:

General Comments

One of the concerns we expressed in earlier comment letters was that aggressive improvement of the Guanella Pass road might encourage very high levels of human use and encroachment into this relatively undisturbed zone, resulting in negative impacts to wildlife populations and "fragmentation" of the area. The preferred alternative as described in this document seems to fairly successfully meet this concern in that it both calls for significant portions of the road to remain unpaved and minimizes widening and other "improvements" which would make the road more inviting to large numbers of people.

Another major concern was the impact of road widening on nearby streams, wetlands, riparian areas, and boreal toad habitat. The preferred alternative serves to minimize these impacts although it doesn't totally eliminate them. As the project proceeds we ask that you consult with our staff on these issues, especially regarding boreal toad impacts. We would like to work closely with you to assure that construction work does as little damage as possible to these important habitats.

We accept the statement that winter closure of the road is not a decision for the Federal Highway Administration, but wish to again point out that several species of wildlife would benefit from a lack of disturbance in this area during the winter. Additionally, the salt and sand used to keep roads passable during the winter would clearly have some negative effect on stream environments.

The measures proposed to avoid introduction of noxious weeds due to project activity appear to be excellent and are very important.

Specific Comments

Page II-21 – Guanella Pass Parking Lots – The Guanella Pass area is very important wintering habitat for white-tailed ptarmigan, especially areas of willow. It is important both that willow stands be protected from disturbance as much as possible and that human use of the area be controlled during the period from mid-November to mid-April. The EIS commits to a biological survey of the entrance roads to the parking lost, but not the parking lots themselves. We suggest that planning for this vicinity be coordinated with our staff to assure that the future of ptarmigan in the area is reasonably considered.

Page II-45 – Realignment of the Road – From the standpoint of not disturbing currently undisturbed habitats, the proposal to avoid any re-alignment of the road seems positive.

Page II-51 – Major Stream Crossings - The measures proposed here to maintain the integrity of the streams are excellent.

Page II-52 – Guardrail Design – From a wildlife passage standpoint, guardrails which allow small wildlife to pass under them would be preferable to those which form a complete barrier. This would be more of an issue if the guardrail were lengthy.

Page III-53 – Wetlands – A question: recent changes in interpretation of the Clean Water Act (Section 404) have removed protection from some wetlands which formerly were covered under the Act. Do Federal Highway Administration policies require reasonable mitigation for all wetlands to be impacted, or only for those currently protected by the Corps of Engineers?

Page III-93 – Last Paragraph – We are pleased to see that the preferred alternative serves to minimize direct impacts to wildlife habitats adjacent to the roadway.

Page III-103 – Guanella Pass Parking Lot – As mentioned above, potential impacts to wintering ptarmigan from impacts to willow habitat are an important issue.

Page IV-2 – Wetland Mitigation – The DEIS does not deal with the specifics of wetland impacts and mitigation, leaving that for the 404 Permit process. That is reasonable to us and we will evaluate the mitigation proposals at that time.

Page IV – 4 – Flora/Fauna Mitigation – In general, these proposed mitigation measures seem appropriate and valuable.

Page IV – 4 – Flora/Fauna Mitigation – The measure to encouraged reduced vehicle speeds is important from the standpoint of reducing animal/vehicle collisions.

Page IV – 4 – Flora/Fauna Mitigation – The emphasis on avoiding impacts to white-tailed ptarmigan is important and appreciated!

Page IV – 4 – Flora/Fauna Mitigation – Only a brief mention (next to last bullet statement) is made of the issue of retaining walls serving as barriers to movement by wildlife. This was one of the major points in our letter of December 22, 2000, in which we identified 5 specific areas of concern. We would have expected that these specific areas would have been addressed in considerable detail in this document, but they are not. Did the changes in the preferred alternative (less widening, etc.) reduce the need for extensive lengths of vertical retaining walls? Allow for more or larger gaps in them? We request a complete analysis of this subject in the final version of the EIS.

We hope these comments are helpful – if you have any questions please contact Habitat Biologist Dave Weber at (303)291-7231.

Sincerely,

Scott Hoover by Dave

Scott Hoover
Regional Manager

Cc: Dave Weber, Mindy Clark, Ron Oehlkers, Anne Mangusso, Eric Odell, (2 copies)
Karen Hardesty - CDOW
Tim Pollard, DNR

After construction, traffic at Guanella Pass is projected in the BA to increase 88 percent above the 1995 traffic volumes by the year 2025. This can be compared to the no-action EIS alternative, for which the traffic is projected to increase by 56 percent over the same period. Traffic volume (weekend summer seasonal average daily traffic) under the build alternative in 2025 is projected to be 640 vehicles per day near Duck Lake and 1,295 vehicles per day just north of the Pass.

The existing road is not fenced, and the reconstructed road will not be fenced. Standard "W"-beam guardrail will be used as warranted for safety (approximately 5 percent of the route plus on top of retaining walls). Retaining walls will be installed along approximately 14 percent of the route. Solid guardwall, a visually preferable alternative to w-beam either made of stone or faced with stone, will be used in some locations within the Georgetown town limits.

For purposes of this analysis it has been assumed that a construction crew of ten to thirty workers would be engaged in on-site construction during the construction season. The workers would arrive at the site in private vehicles. A centralized base of operations would be established. Standard earth moving and resurfacing equipment would be used by the construction crew. This equipment would include: Track mounted dozers, loaders, compactors, dump trucks, pickup trucks, hot asphalt resurfacing equipment, field laboratories and field offices. Construction equipment would be equipped with standard noise abatement devices in compliance with applicable county or local codes.

Due to the length of the project corridor and limited available funding, construction would require four construction seasons, which could take place over four calendar years (2004-2007). The high altitude of the corridor limits the length of the construction season. The maximum construction season would be mid-May through October. The altitude of the construction area would be an influential variable, with higher altitude areas having shorter construction seasons. The majority of construction activities would take place during daylight hours and would necessitate some road closures.

A more complete discussion of the scope of the improvements proposed under Alternative 6 is presented in the Preliminary EIS, Guanella Pass Road (FHWA 2002). Copies of this document have been provided to the Grand Junction and Lakewood offices of the Service.

Status of the Species

Species/ Habitat Description

The Canada lynx is a "medium-sized" felid that occupies mesic coniferous and mixed deciduous/coniferous forests of North America. It is a highly specialized carnivore adapted to life in forested habitats where persistent snowy conditions occur.

Lynx habitat in the Western U.S. consists primarily of two forest types which support foraging and denning. Foraging and denning habitats must be linked by "travel cover" that allows movement of lynx within their home ranges (Koehler and Aubry 1994). Studies of lynx movement patterns indicate that lynx tend to avoid large areas of open terrain where forest and shrub cover are absent. Lynx move freely through forested terrain and utilize ridges, saddles, and riparian areas as movement corridors (Koehler 1990, Staples 1995).

Home range size varies depending on season, gender, prey abundance, and density of lynx population (Squires and Laurion 2000; Apps 2000; Aubry et al. 2000; Mowat et al. 2000). Lynx maintain mostly exclusive intrasexual territories based on social intolerance and mutual avoidance (Mowat et al. 2000). In a Montana study, annual home ranges averaged 220 km2 for males and 90 km2 for females (Squires 2000). Seasonal home ranges for males were 127 km2 in winter and 125 km2 in summer. For females, seasonal home ranges were 51 km2 in winter and 42 km2 in summer. The average mean home range size for 23 studies in southern boreal forests was 151 km2 for males and 72 km2 for females (Aubry et al. 2000).

Early successional forests are preferred foraging habitat for lynx where they hunt snowshoe hares *(Lepus americanus)*, their principal prey. Fire, insect infestations, wind, forest disease, and timber harvest create successional stages in subalpine forests, which provide optimal habitat for snowshoe hares.

Lynx have been shown to hunt along the edges of mature forested stands and within dense riparian willow stands (Kesterson 1998, Staples 1995, Major 1989). Willow/alder carrs, riparian shrubland - beaver pond mosaics, and associated ecotones provide habitats where lynx prey may be relatively concentrated and abundant (Ruediger et al. 2000).

In Colorado, subalpine fir, Engelmann spruce, and Douglas-fir are most frequently used by snowshoe hares (Dolbeer and Clark 1975, Wolfe et al. 1982) and are most likely to support lynx. Pine squirrels (*Tamiasciurus hudsonicus*), grouse (*Denragapus* spp.), ptarmigan (*Lagopus* spp.), and ground squirrels (*Spermophilus* spp.) have also been identified as alternative prey for lynx in the Rocky Mountain region (Ruediger et al. 2000).

Benches, plateaus, valleys and gently rolling ridgetops appear to be preferred by lynx (Apps 2000, McKelvey et al. 2000p, Kohler and Aubry 1994.) Late successional forest stands containing abundant coarse woody debris (deadfalls and root wads) are preferred for denning (Koehler and Aubry 1994). Late successional spruce-fir forests may also provide important habitat for stable, low density populations of prey (Ruediger et al. 2000). Denning habitat must occur in close proximity to foraging habitat to be functional. Denning habitat must also be present in sufficient quantity throughout the home range of a female lynx during the period when kittens are being reared to provide protection from predators (Ruediger et al. 2000).

Lynx are generally considered to be nocturnal-crepuscular, however recent evidence from radio telemetry studies suggests that lynx are also active during daylight hours (Roe et al. 1999).

Home ranges of lynx are highly variable in size and are generally significantly larger (more than twice the area) in the Southern Rocky Mountains than in the northern portions of lynx habitat (Ruediger et al. 2000).

On April 23, 1994, the Service was petitioned to list the conterminous U.S. population of the Canada lynx under the ESA. On December 27, 1994, the Service published notice of 12-month petition finding which concluded that listing the Canada lynx was not warranted (FR 59:247,66507-66509). Subsequently, the Service determined that the Canada lynx in the contiguous U.S. constitutes a distinct population segment under the ESA and found that listing this population segment is warranted but precluded by work on other species having higher priority for listing (FR 62:101, 28654-28657). This decision was remanded as a result of legal action, and on July 8, 1998, the population of Canada lynx within the contiguous United States was proposed for listing as a threatened species under the ESA (FR 63; 130). On March 24, 2000, the Service published the final rule listing the contiguous U.S. Distinct Population Segment of the Canada lynx as threatened.

No critical habitat has been designated for the threatened population of Canada lynx in the contiguous U.S. As explained in the Final Rule, designation of critical habitat is prudent, but has been deferred until other higher priority work can be completed within the current budget.

The Colorado Wildlife Commission has designated the Canada lynx as a state endangered species (CDOW Regulations Chapter 10, Article II, Endangered Wildlife).

Environmental Baseline

Status of Lynx Within the Action Area

Lynx were historically found in the subalpine spruce-fir forest in Colorado (Cary 1911) and may have been relatively common until the early 1900s (Ruediger et al. 2000). The Colorado Division of Wildlife (CDOW) released 96 lynx during 1999-2000 in an attempt to reestablish a viable lynx population in the state. As of August 24, 2002, 53 of 96 lynx released by the Colorado Division of Wildlife are thought to be alive (CDOW website, August 24, 2002).

There is some evidence that lynx habitat in the Guanella Pass area was occupied prior to the reintroduction of lynx to Colorado. During the 1960's, snowshoe hares were relatively abundant in the Guanella Pass area. During this period CDOW received reports of "large cats" scavenging in trash dumpsters at the Geneva Basin Ski Area (Halfpenny, 1995). In 1972, one lynx was trapped in Clear Creek County near the mouth of Daisy Gulch, east of Bakerville and South of I-70. Lynx detection efforts conducted during 1978-1980 (CDOW 1980) indicated that lynx were present in the Fryingpan River drainage (Eagle and Pitkin Counties), the Vail area (Eagle County), southeast of Leadville (Lake County), and the Guanella Pass area (Park and Clear Creek Counties). A total of eight sets of lynx tracks and 28 sets of snowshoe hare tracks were found in the West Chicago Creek drainage (immediately east of the Guanella Pass Road) during the

CDOW state-wide lynx detection effort (CDOW 1980). This record is listed as a "B" (probable) sighting in the CDOW database. In the mid to late 1980's, snowshoe hares were still commonly encountered along Guanella Pass Road between Guanella Pass Campground and Duck Lake, where as many as 30 could be seen during a single winter morning traverse of this area (Cannady, 1996).

The Colorado Division of Wildlife's lynx reintroduction program was responsible for releasing 19 males and 22 females in 1999 in southern Colorado. In 2000, an additional 20 males and 35 females were released. All were tracked using radio collars. Currently, 43 of the reintroduced lynx are known to be dead, 34 are still being tracked, and the remainder are missing (CDOW website, August 24, 2002). There has been no evidence of reproduction within the Colorado lynx population.

Two of the introduced lynx traveled to sites in Clear Creek County where they were killed. One lynx occupied the Guanella Pass area and apparently was killed by a bobcat during the Winter of 1999-2000 (Shenk, pers. comm. 2000). A second animal was killed on I-70 near the Bakerville Exit (Broderdorp, pers. comm. 2001), approximately 15 km (9 miles) from Guanella Pass. During the summer of 2001, a third lynx traveled to the Guanella Pass area via an unknown route from the south. This animal moved through the Guanella Pass area from north of the pass, south, en route to the Collegiate Peaks (Wait, pers. comm. 2001). Based on this information it is apparent that habitat for lynx is present in the project area and is, at least periodically, occupied.

Factors Affecting Species within the Action Area

Snowshoe hares persist at low density in the Guanella Pass area as evidenced by signs encountered during limited field surveys conducted in support of the biological assessment. Habitat suitability for lynx and their principal prey, the snowshoe hare, in the project area has been negatively affected by fire suppression and the absence of logging during the recent past. Creation of early successional stands of coniferous forest has been suppressed as a result of these forest management practices and the capacity of the area to support snowshoe hares and lynx has consequently been limited. Windthrow (trees uprooted by wind) and forest disease are natural forces that result in early successional forest stands (and higher habitat suitability for lynx) in at least some locations of the project area.

Potentially suitable lynx foraging and denning habitat in the Guanella Pass Road corridor has been mapped by the USFS. In the area north of Guanella Pass, the USFS has identified essentially all forested areas within the South Fork of Clear Creek valley as potentially suitable lynx foraging habitat. The majority of subalpine forest stands in this valley were mapped as potentially suitable denning habitat. Hence, virtually all forested areas of the road corridor north of Guanella Pass have been identified by the USFS as potentially suitable denning or foraging habitat. Lynx habitat mapped by the USFS south of Guanella Pass includes potential foraging and denning habitats in subalpine and upper montane forest stands. The pattern of lynx habitat mapped south of Guanella Pass suggests a patchy distribution of suitable habitat. The suitability

of upper montane forest stands along Geneva Creek that are mapped as suitable habitat is questionable considering patterns of snow accumulation, limited prey availability possibly due to the presence of bobcats (*Felis rufus*), coyotes (*Canis latrans*), and mountain lions (*Felis concolor*).

Lynx habitat in the Southern Rocky Mountains is generally believed to be composed of fragmented patches of subalpine coniferous and mixed aspen-conifer forest which typically occur as elevational bands on the flanks of mountain ranges and are connected to varying degrees by lower elevation forest and shrub habitats (Ruediger et al. 2000). It is likely that lynx habitat within the project area occurs in a similar pattern and consists of islands of habitat potentially capable of supporting foraging and denning. Areas of potentially suitable habitat are connected to varying degrees by stands of forest and shrublands which are not currently capable of supporting lynx. Stands of subalpine forest, riparian shrublands and wetland mosaics in the upper reaches of the Duck Creek and South Clear Creek drainages provide the best habitat quality for lynx in the project area. This conclusion is based upon the topography and the continuity of older growth subalpine forest and extensive riparian shrubland cover that exists in this area. The presence of coarse woody material on the forest floor and a habitat mosaic of forest, riparian shrublands, and abundant ecotonal habitats provides potential denning habitat in close proximity to foraging habitats where lynx prey are relatively abundant.

Factors Affecting Baseline Condition

The Guanella Pass area, including the project area, has been identified as an essential movement corridor for lynx. Movement of lynx through the pass is essential for the long-term viability of the Colorado lynx population, due to the low lynx population density and that lynx may be required to make extensive movements in order to find mates for breeding. Movement of lynx across the landscape must be maintained in order for there to be genetic exchange between animals that have dispersed across the Colorado landscape.

Highways can alter landscapes by fragmenting large tracts of land, some of which were previously homogenous habitats. Highways typically follow natural features such as lakes, rivers, and valleys that may have high habitat value for lynx. As the standard of road increases from gravel to two-lane highways, traffic volumes increase (Ruediger et al. 2000).

Interspecific competition with bobcats, coyotes, and mountain lions is a significant risk factor for lynx throughout the project area. Competition for prey and predation on lynx by bobcat or mountain lion are undoubtedly significant factors for lynx in the project area. As previously mentioned, one of the lynx translocated to Colorado apparently was killed by a bobcat in the Guanella Pass area during the winter of 1999-2000 (Shenk, pers. comm. 2000).

Information currently available suggests that lynx do not avoid forest roads and backcountry roads (Ruggiero et al. 2000). A recent study of radio collared lynx in British Columbia, Canada indicated that lynx cross major highways more frequently than previous investigations had

indicated; however, high traffic volumes on interstate highways and paved 2-lane roads impeded lynx movements (Apps 2000). However, (Ruediger et al. 2000) has identified highways as a contributing factor affecting movement of lynx through and across landscapes. Highway mortality was identified as the principal limiting factor for lynx translocated to New York (Brocke et al. 1990, Brocke et al. 1992). Factors including the patchiness of suitable habitat and limited prey availability may result in larger home range size, necessitating more frequent movements across roads in southern Rocky Mountain habitats. Translocated lynx in search of suitable habitat, prey, and mates may be more susceptible to mortality on highways than resident animals.

Highway mortality is a significant risk factor for lynx throughout the State of Colorado. As of August, 2002, the CDOW reported that six of the lynx reintroduced into Colorado have been killed on highways (CDOW website). Two of these mortalities occurred on I-70; one near the Bakerville Exit in Clear Creek County and another in the Vail Pass area. One lynx was killed on Wolf Creek Pass (U.S. Highway 160), and a fourth lynx was killed on Red Mountain Pass (U.S. Highway 550), the two remaining road kills occurred near Durango Mountain Resort on Highway 550, and one in New Mexico. Site characteristics (road geometry, posted speed limits, surrounding topography and vegetation cover) at locations where these mortalities occurred are highly variable (Wait, pers. comm. 2001). However, each of these roads are paved and maximum vehicle speeds range between 72-112 km/hr (45-70 miles/hour).

The geometry of the existing road, and road surface conditions in areas identified as potential lynx habitat, are factors which, based on observations noted in the field, encourage most drivers to limit vehicle speeds to 16-56 km/hr (10-35 miles/hour). The probability of a collision between a vehicle moving at these speeds with a lynx crossing Guanella Pass Road is expected to be much lower than the probability of lynx mortality on a high-speed road. Traffic volume research suggests that 2,000 to 3,000 vehicles per day may be a threshold above which adverse effects may be anticipated (Rudiger, 2001). The existing traffic volume is 340 vehicles per day at Duck Lake and 690 vehicles just north of the pass (weekend seasonal average daily traffic). These low traffic volumes, combined with relatively low vehicle speeds, suggest that effects of current traffic levels on the lynx are minimal.

The existing road has only one short section of guardrail and no retaining wall that would impede lynx movement. The Cabin Creek generating station is fenced with 3m (7 foot) high chain link, and the road parallels approximately 300 m (1,000 feet) of this fencing. The fencing is adjacent to mapped foraging habitat at approximately station 31+000; however, the steep slopes on the west side of the road and the lake itself may act as barriers, potentially inhibiting movement in this area. There is no other fencing along the road; the road itself is not fenced.

Reservoirs adjacent to the existing road may create barriers to movement in some areas. The north end of the Georgetown Reservoir is at a potential lynx crossing area. Green Lake, Clear Lake, and Lower Cabin Creek Reservoir are close enough together to theoretically be a continuous barrier to lynx movement. There is mapped foraging habitat on both sides of all three

of these lakes, and denning habitat to the east of Green Lake and Clear Lake. This barrier effect is responsible for the mapped lynx conceptual movement pattern (assumed by FHWA) along the east side of the existing road and the lack of mapped potential lynx crossing areas in this vicinity.

The effects of year around recreation are a significant risk factor for lynx in higher elevations of the project area. Snow shoeing and nordic skiing are popular activities throughout the subalpine forest and willow shrublands in the Guanella Pass area. A network of trails is created by backcountry recreationists resulting in compaction of snow which provides coyotes, bobcats, and mountain lions access to prey in potential lynx habitat. Concentrated winter recreational activities in the subalpine meadows and forest in the Guanella Pass area also alter habitat suitability for white-tailed ptarmigan (*Lagopus leucurus*), which may be an important alternative prey for lynx. The potential for interspecific competition and lynx mortality as a result of competition for prey or as a result of bobcat or mountain lion predation is increased during winter as a result of these recreational activities.

Dispersed summer recreation may also be a risk factor for lynx in the project area during the denning season (May-July). Backcountry hiking has been identified as a disturbance that may cause lynx to relocate during the denning season (Ruggiero et al. 2000b). Suitable denning habitat for lynx is patchy and limited in the Guanella Pass area; therefore, recreational disturbance during the denning season may be a potentially important factor affecting lynx habitat suitability.

At Guanella Pass summit, existing parking areas on the east side of the road, covering 1.04 acre, accommodate 200 to 250 vehicles on peak weekends. This is a popular parking area for hikers and others dispersing into the backcountry for recreation. This activity could be disturbing to lynx because the willow shrublands and surrounding edge habitats in the vicinity of the parking area may provide travel cover and foraging habitat for lynx.

Movements of translocated lynx in Colorado as determined by radio telemetry indicate that lynx are successfully crossing interstate highways and other roads as they disperse from release sites (Ruediger et al. 2000, Wait, pers. comm. 2001). Lynx have been found to travel along roadways within 15 m (50 feet) of roads where adequate "travel cover" is present on both sides of the road (Koehler and Brittell 1990). Coniferous or deciduous vegetation greater than 2 m (6.5 feet) in height with a closed canopy, adjacent to foraging habitats, is considered suitable as travel cover for lynx (Brittell et al. 1989, Koehler and Aubry 1994). Closed canopy forest and shrub cover exists adjacent to Guanella Pass Road in many areas of the subalpine zone and may facilitate passage of lynx across the road.

Although most of the property along the Guanella Pass Road is owned by the Federal Government and managed by the USFS, there are some tracts of private property along the route, including the Gordon Ranch near Grant, private property at Duck Lake (Alpendorf on the Lake), and the private property at Green Lake. The only likely development, however, is on the southwest corner of Duck Lake, where a forty acre tract has been is subdivided and three

one-acre lots have been sold. There is also an area just north of Georgetown Reservoir where the road goes through land owned by several entities. This area is mapped as a potential lynx movement corridor. Many small private parcels are interspersed with land owned by Clear Creek County, the Colorado State Historic Society, Georgetown, and Historic Georgetown. There are no known plans to develop in this area.

Recreational use of lands accessed from the road may adversely affect habitat suitability for lynx in the Guanella Pass vicinity. Along the entire route, there are five campgrounds, three picnic areas, and four trailheads, with a combined total of 179 parking spaces. Unregulated and poorly defined parking along the road extends the area of potential disturbance from recreational activities. The largest parking facility along the route is located at Guanella Pass, where trails lead to Mt. Bierstadt and Mt. Evans. There is parking for about 75 vehicles at Guanella Pass; however, 200 or more vehicles park in and around this area on peak summer weekends. The mapped lynx movement pattern is west of this parking area, and dispersion of recreation activity is toward the east. The Abyss Trailhead parking area, just south of Burning Bear Campground (approximately station 9+500), has about 20 parked vehicles on a typical summer Saturday. Hikers follow the trail westerly along Scott Gomer Creek, which is mapped as being a potential lynx movement corridor. This could potentially be used for access to denning and summer foraging habitat, but is not part of the major north-south potential movement corridor. Other parking areas are not within mapped habitat; however, Geneva Creek Picnic Area (5 parking spaces) is adjacent to habitat mapped as denning and summer and winter foraging.

Factors Limiting Risk in Baseline Conditions

A factor that may limit the potential for lynx mortality on Guanella Pass road is the diurnal traffic pattern. While lynx are generally considered to be most active during the dusk-dawn period, monitoring of lynx in British Columbia, Canada indicated that lynx movements were not restricted to the dusk-dawn period (Apps 2000). However, the potential for collisions between lynx and vehicles on Guanella Pass Road is limited during darkness, due to the low number of vehicles that travel through lynx habitat. Traffic studies conducted on Guanella Pass Road during 1995 indicated that the number of vehicles traveling the road during darkness could vary from approximately 3 percent of the total trips recorded south of Georgetown to less than 1 percent of the total trips recorded at Guanella Pass, based on the month to month, 1995 period when traffic was monitored (M K Centennial 1995a).

Winter conditions on Guanella Pass Road also limit traffic and vehicle speeds and may limit the potential for lynx vehicle collisions. At the present time, Park County plows the road from U.S. Highway 285 to a point approximately 11.5 km (7.1 miles) north of Grant. Clear Creek County conducts winter maintenance on the road from Georgetown to the county line after all other county maintained roads are cleared. An avalanche area exists in the subalpine forest north of Guanella Pass and it is periodically cleared of deep snow using explosives. Wind frequently re-deposits drifted snow on the road in open areas following winter maintenance activities. Consequently, the road is effectively closed to traffic following heavy snows.

Effects of the Proposed Action

Beneficial Effects

The proposed project will limit parking to specified areas along the route. This will reduce impacts to vegetation along the road and discourage recreational use in sensitive areas.

Parking at the summit on the east side of the road would be limited to 50 vehicles. The number of people using the east side trail system would be reduced from 170 people to 75-100 people. Total parking at the summit is proposed to accommodate 110 vehicles, a reduction from the approximately 200 to 250 vehicles that park at one time during peak weekends or aspen viewing periods. This is dependent on the successful implementation of the permit system proposed by the USFS for the east side parking lot (Lowry, USFS, pers. comm.).

Direct Effects

As noted under the project description, three different levels of construction are proposed; rehabilitation (within the limits of the existing surface and ditch, 64 percent), light reconstruction (within the existing roadway's cut and fill slopes, 18 percent), and full reconstruction (outside of the existing roadway's cut and fill slopes, 18 percent). Only 18 percent of the route will have work done outside of the existing disturbed roadway prism. The areas where full reconstruction is proposed total 6.9 km (4.3 miles) in length, and the resulting areas of disturbance, based on an average 21 m (69 feet) full reconstruction clearing width, are listed below.

Stations	Length in Mapped Habitat	Area of Disturbance
8+100-9+140	Not in mapped habitat	
16+140-19+140	0.25 km (.16 miles) in foraging/denning	0.53 ha (1.3 acres)
19+440-19+530	Not in mapped habitat	
24+480-25+360	0.88 km (.55 miles) (all) within foraging/denning	1.85 ha (4.6 acres)
25+700-27+560	1.9 km (1.18 miles) (all) within foraging	4.00 ha (9.9 acres)
"	0.7 km (.44 miles) within denning	1.47 ha (3.6 acres)

Although these areas make up a very small amount of available habitat in the immediate vicinity of the road, removal of cover adjacent to the highway may discourage lynx from approaching the road. Direct effects to habitat are not likely to impede lynx movement or otherwise adversely affect the lynx.

Borrow extraction and hauling operations during construction of the road will generate noise and will result in increased traffic on segments of the road throughout the construction period. The Geneva Basin borrow site is not within mapped lynx habitat. The borrow site near Duck Lake is at the east boundary of mapped denning and foraging habitat. It is also in the vicinity of the potential lynx crossing area just south of Duck Lake. Approximately 75,000 cubic meters (100,000 cubic yards) of material would be excavated and crushed at the site during April

through mid-November. Some blasting may be necessary. FHWA estimates that 7,000-9,000 dump truck round trips would be necessary to haul materials from this site to road reconstruction work areas. It is anticipated that these activities will occur for approximately four years. Lynx would likely avoid this area during periods of heavy equipment operation; however, since work at the borrow site will be restricted to daylight hours, it is not likely to result in lynx mortality or exclusion of lynx from the area.

New or expanded parking areas are proposed at Grant Byway Entrance (4+100), Abyss Trailhead (9+400), Duck Creek Winter Closure (12+300), Guanella Pass Summit (21+800), Naylor Lake Winter Closure (24+600), and Silverdale/Georgetown Byway Entrance (35+800). Of these, only the Naylor Lake Winter Closure is within mapped lynx habitat. This proposed parking area would remove 0.23 ha (0.56 acre) of spruce-fir forest in an area mapped as foraging and denning habitat. This loss, although small constitutes an incremental permanent loss of this habitat type.

Direct effects from loss of habitat at proposed parking areas are expected to be insignificant at Guanella Pass summit. The proposed summit parking areas and associated facilities would remove approximately 2.35 acres of alpine turf with scattered willows. The parking facilities would not affect habitat that is most likely used by lynx. The tall, contiguous willow fields are avoided and, therefore, cover for travel and potential foraging habitat by lynx would not be directly impacted by construction or presence of the parking lots. Accordingly, the probable routes of lynx movement and habitat for potential prey species would remain intact (Lowry and Bohon 2002).

Retaining walls will be installed along approximately 14 percent of the route (not including walls within the Georgetown town limits). Field inspection of areas where retaining walls would be constructed suggests that the potential for lynx movement across the road may be affected at three locations: the Green Lake area between stations 33+500 and 34+500, the area south of Naylor Creek and north of Guanella Pass between stations 22+000 and 25+000, and the area south of Duck Lake, between stations 16+500 and 18+500. However, at various locations within these areas, there are gaps in the walls which would allow lynx passage. A 3-foot high wall is probably easily scalable under normal circumstances and is considered passable. Retaining walls locations and gaps in these areas are shown in Table 1 of the BA.

The worst case situation is where the wall just south of Duck Lake has only a short gap between two relatively long segments, 370 m (1,210 feet) and 550 m (1,800 feet) in length. The significance of impairment to lynx movement caused by retaining walls in this area is difficult to predict, however, some limitation of movement should be expected.

Including retaining wall areas, guardrail will be used on approximately 19 percent of the route (14 percent on top of retaining walls). Except within the town limits of Georgetown, the railing will be "W"-beam on posts, which is about 1 m (3 feet) high and has about a 0.5 m (1.5 feet) gap between the rail and the ground. During snow free periods, this type of guardrail should allow animals to easily see traffic on the roadway through the guardrail. Snow piled up over the guard

rails from accumulation of snow removal and natural snowfall will overtop the guardrails. Horizontal distance between the back of the railing and the top of the wall is approximately 5 feet. During snow free periods, this should provide an area where lynx could pause, before proceeding over or under the railing. During winter periods, snow buildup between the guard rail and retaining walls may produce barriers to movement. For the 5 percent of the route that will have guardrail positioned at the top of construction fill slopes, the slopes are not steep enough to present difficulty or hazard to lynx movement. Within the town limits of Georgetown, guardwalls may be used for aesthetic purposes. Since these are solid walls, they would prevent views of the road from behind them. However, they would be used only on the switchbacks above Georgetown, ending well below the potential lynx crossing area, and well north of mapped habitat.

Interrelated and Interdependent Actions

The proposed 60-site parking area on the west side of the pass would be about 700 feet from a willow field that most likely provides for lynx movement over the pass. An existing trail crosses this willow field and a non-system trail parallels it and enters forested habitat north of the pass. On an average summer weekend day, it is estimated that the number of people using the west-side trail system would increase from 15 people to 60-90 people. This level of use is likely to increase over time. Some nighttime human activity (e.g., camping, overnight recreational vehicle use) may be expected. In these uncommon instances, the increased human activity associated with the proposed project may alter the behavior of lynx attempting to cross the pass, and result in the reduction in the quality of foraging habitat.

The Abyss Trailhead parking area (9+500) will be increased in size, and it is estimated that about 34 vehicles will use it on a typical summer Saturday in 2025, compared to the 20 vehicles that are currently found on a typical summer Saturday. Hikers will follow the trail westerly along Scott Gomer Creek, which is mapped as being a potential lynx movement corridor. This could potentially be used for access to denning and summer foraging habitat, but is not part of the major north-south potential movement corridor. The effects of this trailhead reconstruction will likely be minor.

A new parking area, the Naylor Lake Winter Closure, is proposed at station 24+500. This area would be used by recreationists if the road is closed in winter. The parking area would accommodate 35 vehicles, and would include a kiosk and restrooms. This parking area is within mapped denning and foraging habitat, and within a mapped potential lynx crossing area. This crossing area is about 3 km (1.8 miles) long, and another crossing area about 0.8 km (0.5 miles) to the north is about 2.2 km (1.4 miles) long. Since there are adequate alternative crossing locations in the immediate vicinity, and the number of parking spaces is small, it is unlikely that use of this new parking area would adversely affect the ability of the lynx to travel through the area.

It should be recognized that FHWA has no authority over management of parking areas, campgrounds, picnic areas and other recreation based infrastructure. Indirect effects discussed in this biological opinion will occur as a result of the proposed action, however, the Service recognizes the inability of FHWA to implement measure to minimize take as a result of those indirect effects. Ultimate authority for management of recreation and associated infrastructure falls to the USFS. The USFS has agreed to submit a proposed action for management of infrastructure to minimize the indirect effects of the Guanella Pass Project (Lowry, pers. comm.)

Indirect Effects

The design speed for Alternative 6 would be between 30-50 km/hr (20-30 miles per hour). Although the design speed for the reconstructed roadway is the same as the current posted speed, planned road improvements including widening of the road surface, improvements to the vertical profile, grade, and road surface will likely result in increased vehicle speeds through potentially suitable lynx habitat, at least at some points within the corridor.

The projected increase in traffic volume at Guanella Pass in 2025 is 88 percent above 1995 traffic volumes. Traffic volume (weekend summer seasonal average daily traffic) under the build alternative in 2025 is projected to be 640 vehicles per day near Duck Lake and 1,295 vehicles per day just north of Guanella Pass (existing volumes are 340 and 690, respectively, and the no-build alternative 2025 traffic would be 530 and 1080). Increased human activity in and near the road corridor can be expected to result in avoidance of some areas by lynx. As a result of the magnitude of increased traffic and potentially increased vehicle speeds, the probability of lynx-vehicle encounters will increase, as will the potential for lynx mortality.

A Draft Programmatic Consultation Agreement between the Service, Colorado Department of Transportation (CDOT), and FHWA recognizes the potential for adverse effects on lynx as a result of highway projects that cause increased traffic volumes and vehicle speeds (CDOT n.d. [not referenced]). On April 5, 2001, the Service provided guidance to FHWA concerning the effects of projects causing increased traffic volumes or speeds. Specific guidance concerning thresholds of traffic volume or vehicle speed above which the potential for lynx-vehicle collisions is considered to reach a level that would result in an "adverse effect" is not available. The Service believes that any project which results in increased traffic volume or speed, will result in an increased likelihood of take.

Ruediger et al. (2000) reports that definitive information concerning levels of vehicle traffic above which lynx dispersal and mortality are affected is not available. Research in Canada suggests that highway traffic volumes of 2,000-3,000 vehicles per day may be a threshold above which adverse effects may be anticipated. Paved highways and nighttime traffic are factors that may create impediments to lynx movements (Ruediger et al. 2000). Clearly, many factors contribute to potential adverse effects of highways on lynx including vehicle speed, topography, and vegetative cover characteristics adjacent to roads.

The wider footprint of the road could promote higher traffic speeds and higher traffic volumes, increasing the existing barrier effect of the highway and thereby further fragmenting habitat. It is known that some highways are not barriers or significant mortality factors for carnivores. These highways generally have low traffic volume and long pauses between traffic pulses. They are also two-lane roads, often with minimal clearing distances (Ruediger 2001). Some researchers suspect that fragmentation due to traffic volume increases at approximately 2,000 to 3,000 vehicles per day and becomes a serious problem at 4,000 vehicles per day (Ruediger 2001). Since traffic volume (weekend summer seasonal average daily traffic) under the build alternative in 2025 is projected to be about 640 vehicles per day near Duck Lake and 1,295 vehicles per day just north of the Pass, traffic volume may not cause serious adverse effects. However, at present the Service does not consider the population of lynx in the action area to be self-sustaining. The Lynx Conservation Assessment and Strategy (LCAS) (Ruediger, et al. 2000) states that direct mortality from vehicular collisions may be detrimental to small lynx population in the lower 48 states. Brocke et al. 1993 suggests that, in the White Mountain National Forest in New Hampshire, extirpation of lynx resulted from three primary factors; trapping, loss of habitat, and losses from highway mortality. The model used suggested that trapping alone would not have accounted for the loss of lynx in New Hampshire. Since trapping is not authorized, and habitat loss does not appear to have affected reintroduced lynx in the Guanella Pass area, increased mortality resulting from collisions between lynx and vehicles on Guanella Pass Road due to increased traffic volume or speeds, above no-action levels, are likely to result in adverse effects to lynx within the action area.

Indirect effects are also likely to result from increased use of the area by recreationists. If recreation were to increase in proportion to traffic, there would be an 88 percent increase over 1995 levels by 2025 (a 20 percent increase over the no-action alternative). This may be somewhat offset by the roadway design, which would discourage parking except in designated areas. The use of guardrail, pullouts, and formalized parking areas help to control the amount of recreational use in undefined or undesirable areas. Effects are also limited because recreational activity normally takes place during daylight hours.

Human use associated with parking at Guanella Pass summit during the winter, assuming the road and both parking lots are kept open, is expected to impact lynx habitat in the vicinity. Human use is expected to remain about the same during winter on the east side of the road due to limited parking; however, use will increase on the west side due to establishment of the 60-site parking lot. The new lot on the west side, located over 300 yards to the west of the existing parking area, will encourage more over-the-snow recreation to the west, north, and south of the parking lot, resulting in increased snow compaction throughout west-side willow fields. The significance to lynx is that other carnivore predators would be allowed access over compacted snow and would compete with lynx for prey species (e.g., coyotes) and possibly prey on lynx (e.g., mountain lions). Similarly, increases of other predators throughout the alpine willow fields would reduce the potential for lynx foraging, and increase the vulnerability of lynx to becoming prey to larger predators. Wintering ptarmigan may abandon approximately seven acres of habitat adjacent to the proposed parking lot and trail corridors, reducing foraging opportunities for lynx. These effects are estimated to decrease the ability for lynx to survive in the area.

Similar to the function of the Naylor Lake Winter Closure parking area on the north side of Guanella Pass, the proposed new Duck Creek Winter Closure parking area at station 12+300 would be used by recreationists on the south side of the Pass if the road is closed in winter. The parking area will accommodate 30 vehicles. It is located at the edge of potential denning habitat and about 1 km (0.6 miles) south of a mapped potential lynx crossing area. As with the other winter closure parking area, it is unlikely that use of this parking area would adversely affect the ability of lynx to travel through the area. Other parking areas are not within mapped habitat.

Winter closure has been discussed by representatives from local governments and land management agencies. It has not been determined whether the road will be closed by administrative action during the winter. Clear Creek and Park Counties and the USFS all have management responsibilities. The counties cannot commit in a meaningful way to closing the road to general public use during the winter because the next board of commissioners could rescind the decision. If the road were not closed, the two winter closure parking areas would probably receive little use. If the road is closed, there would likely be a net benefit to lynx through less overall disturbance over a substantial portion of the road.

Very little is known about how lynx move through the Guanella Pass area. Increased human activity may fragment a home range or reduce the incidence and success of lynx dispersal. Until more information is available, it is clear that the proposed project does not benefit the movement of lynx, and that it makes an incremental contribution toward the degradation of this essential movement corridor.

Cumulative Effects

Cumulative effects include the effects of future State, tribal, local, or private actions that are reasonably certain to occur within the action area. Generally, road improvements can contribute to the cumulative effects of human population growth on wildlife and wildlife habitats due to upgrading of roads and highways. These impacts include direct habitat loss, direct mortality, displacement and avoidance of areas affected by increased traffic and human presence, and habitat fragmentation. For species that occupy large home ranges and occur at low density (e.g., lynx) these impacts are likely to be relatively more severe since maintenance of populations of these species necessitates that individuals must cross highways (Ruediger 1996). In addition to direct impacts within the road corridor, displacement, avoidance, and habitat fragmentation may occur as an indirect result of increased human access to backcountry areas which are reached from the Guanella Pass Road.

Forty acres of the private property at Duck Lake (Alpendorf on the Lake) has been subdivided into one-acre parcels, and three of these have been sold. Sale of additional parcels, as well as development on parcels that have been sold, could occur without the project; however, the area would likely be more attractive to many buyers if the road was improved. This property is located just north of a potential lynx crossing area and adjacent to an area mapped as potential denning habitat and potential winter and summer foraging habitat.

The potential lynx crossing location just North of Georgetown Reservoir goes through land owned by several entities. Several small private parcels are interspersed with land owned by Clear Creek County, the Colorado State Historic Society, Georgetown, and Historic Georgetown. There are no known plans to develop the properties in this area, and the project will not increase the desirability of development in this area since it is already accessed by the paved portion of the road.

No other improvements to private property are anticipated as a result of roadway improvement. No additional development at either the Tumbling River Ranch or the private property at Green Lake is reasonably certain to occur; on the contrary, it seems reasonably likely not to occur. Access to Green Lake is already provided by a paved portion of the road, and the Tumbling River Ranch owners are opposed to development.

No additional cumulative effects are identifiable at this time. Long range planning to address anticipated increased traffic volumes on I- 70, immediately north of the project area is underway. The outcomes of this planning effort can not be predicted at this time. Effects of upgrades to I-70 on lynx would be a separate Federal action, and not cumulative considering the effects of the proposed action.

Conclusion

This biological opinion is based on information regarding direct, indirect, and cumulative effects, conditions forming the environmental baseline, the status of the lynx, and the importance of the project area to the survival and recovery of the species. The data used in this biological opinion constitute the best scientific and commercial information currently available.

After reviewing the current status of the Canada lynx, the environmental baseline for the action area, the effects of the proposed action and the cumulative effects, it is the Service's biological opinion that the proposed action is not likely to jeopardize the continued existence of the Canada lynx. No Critical habitat has been designated for this species, therefore, none will be affected.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulations pursuant to 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering. Harass is defined by the Service as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of otherwise lawful activity. Under

the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary, and must be undertaken by the FHWA so that they become binding conditions of any project approval issued to CDOT for the exemption in section 7(o)(2) to apply. The FHWA has the continuing duty to regulate the activity covered by this incidental take statement. If the FHWA fails to assume and implement the terms and conditions of the incidental take statement through enforceable terms that are added to the project approval, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, FHWA must report the progress of the action or its impact on the species to the Service as specified in the incidental take statement.

Amount or Extent of Take anticipated

The Service anticipates that the take (non-lethal) of Canada lynx could result from permanent loss or modification of essential habitat features and function, or by highway modifications that significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, and sheltering. The Service does not anticipate that the proposed action will result in the mortality of an individual lynx.

Habitat loss and modification will result from permanent timber removal for the new footprint of the highway and its clear zone. Such habitat modification could alter or remove habitat essential to the denning or security of lynx using the area, or remove or reduce essential food resources, thereby constituting a potential take. Highway improvements associated with the proposed project are likely to restrict lynx movement by increasing the barrier effect of the highway through increased width, increased speed, use of retaining walls, and an increase in habitat fragmentation. Habitat modifications of this type may adversely affect individuals in the project area by restricting movement within a home range and may adversely affect individuals in the action area by hindering or preventing dispersal through the Guanella Pass area, thus affecting movement across the landscape for dispersal of young and for breeding.

The Service anticipates that one Canada lynx may be taken as a result of the loss or deterioration of essential habitat elements through modification of habitat or by human use of the area (non-lethal), as analyzed in this opinion. We recognize that both resident and dispersing lynx could use the area and that we may not be able to distinguish between them; therefore, non-lethal take of only one individual is authorized, regardless of whether that individual is a resident of the Lynx Analysis Unit (LAU) or just passing through.

Effect of the Take

In the accompanying biological opinion, the Service has determined that this level of anticipated take is not likely to result in jeopardy to the species. Take of Canada lynx resulting in death or injury is not authorized to this project.

Reasonable and Prudent Measures

The Service believes that the following reasonable and prudent measures are necessary and appropriate to minimize impacts of incidental take of the lynx:

1. The FHWA shall maximize vegetation adjacent to the road in potential lynx crossing areas.

2. The FHWA shall minimize construction activities that create barriers for lynx movement.

3. The FHWA shall design the road to minimize barriers for lynx movement.

4. The FHWA shall coordinate with the USFS in implementing measures to minimize adverse effects resulting from indirect effects of the proposed action.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, the FHWA must comply with the following terms and conditions, which implement the reasonable and prudent measures described above and outline required reporting/ monitoring. These terms and conditions are non-discretionary.

1a. Maintain the existing forest cover along the road between Guanella Pass Campground and Geneva Park to the maximum extent possible. This segment of the road corridor is where lynx were historically known to occur and transects the area where the probability of lynx crossing the road between the Mount Evans Wilderness Area and National Forest lands to the west of the road is highest.

1b. In coordination with the USFS, develop slope stabilization and revegetation specifications to reestablish tree and shrub cover as close to the reconstructed road as is consistent with site characteristics and safety.

2a. Prohibit parking lot construction activity at Guanella Pass during dawn, dusk, and nighttime hours.

2b. Limit borrow site activity to daylight hours.

3a. Design the road to prevent parking in undesignated locations.

3b. Use guardrail type and materials that do not impede sight of the road from the shoulder for animals. This may be excepted within the limits of the Town of Georgetown, where solid walls (guardwalls) are proposed for aesthetic reasons.

3c. Design retaining wall sections with a bench between the guardrail and the edge of the wall so that an animal can pause before proceeding.

3d. Evaluate proposed retaining walls during final design to minimize the length of continuous walls higher than 1 m (3 feet) in potential lynx crossing areas. In coordination with the Service, CDOW, and the USFS, hold field inspections of locations at which retaining walls are planned near potential lynx crossing areas, and use this data to develop site specific input to the final design. Emphasis should be placed on locations such as 17+870 and 23+560, where only short gaps are currently planned between relatively long sections of retaining wall (BA Table 1).

3e. Contour and revegetate borrow sites.

3f. If a lynx is killed in the project area, the FHWA shall, within 24 hours, notify the appropriate State Service law enforcement office (303) 274-3560, and assist in making arrangements to transport the carcass to the appropriate State, Federal, or Tribal Wildlife agency so that biological information can be collected. The CDOW should also be contacted at (970) 472-4310.

4. Adverse effects will result from secondary effects of the new parking area on the west side of Guanella Pass Summit. FHWA shall work with USFS in identifying and implementing measures to minimize the likelihood of secondary adverse effects. These measures may take the form of gates, signage, or what ever practicable measures are necessary to preclude use of the new parking area during winter months

The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the impact of incidental take that might otherwise result from the proposed action. If, this level of incidental take is exceeded, or if an injury or mortality occurs as a result of a collision with a vehicle, such incidental take represents new information that may require reinitiation of consultation and review of the reasonable and prudent measures provided. The Federal agency must immediately provide an explanation of the causes of the taking and review with the Service the need for possible modification of the reasonable and prudent measures.

Conservation Recommendations

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

Little is known about lynx movements in relation to human activities and structures, including highways. FHWA should work with the CDOW, the Service and other agencies in attempting to learn more about lynx behavior within the Southern Rockies. On-going studies are being conducted to learn more about lynx movements, however those studies are hampered by minimal funding. FHWA should also contribute resources, where appropriate, to facilitate a better understanding about lynx movements in Colorado, especially in relation to the Federal highway systems.

Reinitiation Notice

This concludes formal consultation on proposed Federal actions related to the proposed highway improvements. As required by 50 CFR 402.16, reinitiation of formal consultation is required if (1) the amount or extent of incidental take is exceeded, (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion, (3) the agency action is subsequently modified in a manner that causes an adverse effect to the listed species or critical habitat that was not considered in this opinion, (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where incidental take exceeds the authorized, any operations causing such take must cease pending reinitiation.

If the Service can be of further assistance, please contact Kurt Broderdorp of my staff at (970) 245-3920, extension 24.

Sincerely,

Allan R. Pfister

Allan R. Pfister
Assistant Colorado Field Supervisor

cc: FWS/ES, Lakewood
FS/RO, Denver (Attn: Nancy Warren)
FS/Arapaho &Roosevelt NF, Fort Collins (Attn: Dennis Lowry)
FS/Pike & San Isabel NF, Pueblo (Attn: Nancy Ryke)
CDOW, Durango (Attn: Scott Wait)

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United States Department of the Interior
NATIONAL PARK SERVICE
INTERMOUNTAIN REGION
Intermountain Support Office
12795 West Alameda Parkway
Post Office Box 25287
Denver, Colorado 80225-0287

IN REPLY REFER TO:
H3417 (IMDE-CNR) NHL

NOV 18 2002

John Knowles
Project Manager
Federal Highway Administration
Central Federal Lands Highway Division
555 Zang Street, Mail Room 259
Lakewood, Colorado 80220

Re: Adverse Effect on Georgetown-Silver Plume National Historic Landmark District, Colorado Forest Highway 80, Guanella Pass Road

Dear Mr. Knowles:

Thank you for your letter advising us of an adverse finding for the Georgetown-Silver Plume National Historic Landmark District, per 36 CFR Part 800.10 (c). Upon review of your material we have decided that our participation in the consultation regarding this adverse effect is not needed. We encourage you to continue negotiations with the Colorado State Historic Preservation Office.

We do, however, have some observations. At the time of the Final Environmental Impact Statement, your agency indicated that it was pursuing the implementation of a haul route that would require the construction of a permanent bridge over Clear Creek on Seventh Street. We note that the letter regarding adverse effect does not address the construction of that bridge, and instead discusses only the construction of an alternate temporary bypass bridge near the second switchback. If you are still pursuing the permanent bridge, we recommend including it in your compliance negotiations.

Per your proposal in item 5 (Applicability of Criteria of Adverse Effect) your agency plans to mitigate visual impacts via a treatment plan. In the future, you may find it helpful to refer to the enclosed *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*.

We appreciate your commitment to the preservation of our Nation's historic resources. If you have any questions, please feel free to contact me at Lysa_wegman-french@nps.gov or at 303-969-2842.

Sincerely,

Lysa Wegman-French

Lysa Wegman-French, Historian
Heritage Partnerships

enclosure

cc:
Dan Corson, Colorado SHPO

United States Department of the Interior
NATIONAL PARK SERVICE
INTERMOUNTAIN REGION
12795 West Alameda Parkway
PO Box 25287
Denver, Colorado 80225-0287

IN REPLY REFER TO:
H3417 (IMDE-CNR) NHL

John Knowles
Project Manager
Federal Highway Administration
Central Federal Lands Highway Division
555 Zang Street, Mail Room 259
Lakewood, Colorado 80220

Re: Colorado Forest Highway 80, Guanella Pass Road, FHWA-FPCO-EIS-99-01-F

Dear Mr. Knowles:

Thank you for providing the opportunity to comment on the Final Environmental Impact Statement (FEIS) for the proposed project on Guanella Pass Road. Overall, we appreciate the research and coordination that you have conducted with other agencies and the public, particularly concerning historic, ethnographic, recreation, and Section 4(f) resources. These resources, in addition to the natural setting and social environment, make the project area unique, and the National Park Service supports preservation of such areas.

Following our review of the FEIS, Alternative 6 appears to reduce the extent and intensity of impacts to cultural and recreation resources. Compared to Alternatives 2 through 5, the Alternative 6 switchbacks consist of a narrower roadway width, smaller curve radii, shorter retaining walls, and minimized reconstruction. Because these roadway features will minimize impacts to cultural and recreation resources, we support Alternative 6 in comparison to the other alternatives presented in the FEIS.

Our understanding is that the project will have an adverse effect to the Georgetown-Silver Plume National Historic Landmark district (GSPNHL) primarily because of visual impacts to the historic setting. In addition, the Colorado State Historic Preservation Office (SHPO) has determined that construction of the Georgetown temporary bypass bridge would result in adverse effects to both the GSPNHL and the Colorado Central Railroad. However, the FEIS indicates that FHWA is pursuing the implementation of the alternate haul route suggested by the town of Georgetown, which would prevent the adverse effect on the Colorado Central Railroad Grade. The proposed haul route would instead include the construction of a permanent bridge across Clear Creek at Seventh Street. We did not see a discussion of effects that the proposed permanent bridge construction would have on the GSPNHL. We appreciate that you have contacted the Advisory Council on Historic Preservation (ACHP) regarding the adverse effects

to the GSPNHL, and assume that you will continue coordination with SHPO and ACHP to prepare a Memorandum of Agreement that defines a treatment plan for any historic properties that are adversely affected by this project.

We appreciate that you have conducted an ethnographic survey and coordinated with affiliated Native American groups. As stated in the FEIS, the project will not impact any resources of Native American interest; however, some Native American groups have expressed concern regarding potential disturbance of cultural sites resulting from improved access. To help alleviate these concerns, we encourage continued coordination with any interested parties, including Native American groups, through final design and construction.

The FEIS contains a thorough inventory of recreation resources and Section 4(f) properties. Although improvements to some of the recreation resources will diminish, in part, the rustic character of these areas, we support improvements that will enhance the usability, safety, and continuance of recreation opportunities. We also encourage appropriate signage of the corridor, not to exceed what is needed for safety and interpretation of the area.

We appreciate your commitment to the preservation of our Nation's cultural and recreation resources. If you have any questions, please feel free to contact me at 303.969.2851 or Lysa Wegman-French at 303.969.2842.

Sincerely,

Cheryl Eckhardt
NEPA/106 Specialist

cc: Lysa Wegman-French, NPS
Dan Corson, Colorado SHPO
Files

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
999 18TH STREET - SUITE 300
DENVER, CO 80202-2466
http://www.epa.gov/region08

November 27, 2002

Ref: 8EPR-N

Mr. Richard Cushing
Central Federal Lands
Highway Division (HFHD-16)
Federal Highway Administration
555 Zang Street, Suite 259
Lakewood, CO 80228

Re: Guanella Pass Road, Colorado Forest Hwy. 80
FEIS Review - 20435

Dear Mr. Cushing:

In accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act, the Region 8 Office of the Environmental Protection Agency (EPA) has reviewed the *Final Supplemental Environmental Impact Statement (FEIS) for the Colorado Forest Highway 80, Guanella Pass Road*, dated September 2002.

The EPA is pleased that the Central Federal Lands Highway Division (CFLHD) has selected Alternative 6 (analyzed in the DSEIS) as the preferred alternative in the FEIS. Alternative 6 has fewer environmental impacts then the other action alternatives because of a reduction in the proposed pavement and a reduction in sections of roads that will be fully reconstructed.

We also want to thank the Central Lands for the additional information provided in the FEIS in response to EPA's DEIS and DSEIS comments (e.g., additional information provided on the new 303(d) listed stream segments and erosion control).

Although the preferred alternative is an improvement over the other action alternatives, EPA remains concerned about wetlands protection, soil erosion and habitat for wildlife species such as the boreal toads. In particular, the mitigation plans described in Chapter IV of the FEIS are written to allow substantial latitude in the level of mitigation that will be implemented. For example on the bottom of page IV-6, drift fences will be evaluated to determine if they could be used to encourage toads to cross the road through culverts or tunnels. We recommend that the Record of Decision more fully specify mitigation measures and the process by which mitigation will be monitored and modified as necessary. Also as discussed previously during site visits, the potential use of the wetlands mitigation bank should not be considered due to the availability of on-site mitigation opportunities.

The EPA appreciated the opportunity to participate in the NEPA review process for this project, and we thank you for providing opportunity to our staff to look at various wetland impacts and potential mitigation sites during a field trip in June 2002.

If you have any questions or want to discuss these comments, please contact Dana Allen at (303) 312-6870 or Sarah Fowler with wetland questions at (303) 312-6192.

Sincerely,

for

Cynthia Cody
Director, NEPA Program
Office of Ecosystems Protection
and Remediation

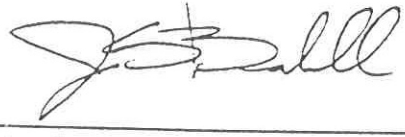
APPENDIX C:

Statements of Concurrence

October 28, 2002
(Date)

STATEMENT OF CONCURRENCE

Based on the information provided in the Final Environmental Impact Statement dated September 2002 for the Guanella Pass Road Improvement Project, the undersigned concur with the selection of Alternative 6 as the preferred alternative. This concurrence is contingent upon resolution of all unresolved issues during the final design of the project.



(Signature)

Forest Supervisor, Arapaho and Roosevelt National Forest and Pawnee National Grassland, USDA Forest Service
(Title)

JAMES S. BEDWELL
(Name Printed)

10/31/02
(Date)

STATEMENT OF CONCURRENCE

Based on the information provided in the Final Environmental Impact Statement dated September 2002 for the Guanella Pass Road Improvement Project, the undersigned concur with the selection of Alternative 6 as the preferred alternative. This concurrence is contingent upon resolution of all unresolved issues during the final design of the project.

William A. Wood
(Signature)

DEPUTY FOREST SUPERVISOR
(Title)

WILLIAM A. WOOD
(Name Printed)

10/03/02
(Date)

STATEMENT OF CONCURRENCE

Based on the information provided in the Final Environmental Impact Statement dated September 2002 for the Guanella Pass Road Improvement Project, the undersigned concur with the selection of Alternative 6 as the preferred alternative. This concurrence is contingent upon resolution of all unresolved issues during the final design of the project.

Leni Walker
(Signature)

Park County Commissioner Dist. 2
(Title)

LENI WALKER
(Name Printed)

Jerry Solberg
(Signature)

Park Co Commissioner
(Title)

Jerry Solberg
(Name Printed)

Don O Staples
(Signature)

Park County Commissioner Dist 1
(Title)

Don O Staples
(Name Printed)

11-12-02
(Date)

STATEMENT OF CONCURRENCE

Based on the information provided in the Final Environmental Impact Statement dated September 2002 for the Guanella Pass Road Improvement Project, the undersigned concur with the selection of Alternative 6 as the preferred alternative. This concurrence is contingent upon resolution of all unresolved issues during the final design of the project.

Fabyan Watrous — (Signature)
Chairman - Commissioner — (Title)

FABYAN WATROUS
(Name Printed)

Jo Ann Sorensen — (Signature)
Commissioner — (Title)

Jo Ann Sorensen
(Name Printed)

Robert J Poirot — (Signature)
Commissioner — (Title)

Robert J Poirot
(Name Printed)

In Reply Refer To: Office of Division Engineer HFL-16

Ms. Lynn Granger, Mayor
City of Georgetown
404 6th Street
Georgetown, Colorado 80444

Dear Ms. Granger:

Enclosed is a copy(s) of the Final Environmental Impact Statement (FEIS) for the proposed improvement of Colorado Forest Highway 80 (CO 80), also known as the Guanella Pass Road. Prior to releasing the Record of Decision for the Guanella Pass Road Improvement Project (Project), FHWA requires from agencies that have signed the Forest Highway Agreement, written concurrence in support of the preferred alternative as it is presented in the FEIS. The preferred alternative is Alternative 6. Should you concur with the preferred alternative, please sign the enclosed "Statement of Concurrence" and return it to the attention of Mr. John Knowles, Project Manager, at the address above no later than November 27, 2002. Please be sure to make a copy for your files.

Should you have any questions please contact Mr. Knowles at 303-716-2149. Thank you for your prompt attention to this matter.

Sincerely yours,

Larry C. Smith
Division Engineer

Enclosure

11/13/2002
(Date)

STATEMENT OF CONCURRENCE

Based on the information provided in the Final Environmental Impact Statement dated September 2002 for the Guanella Pass Road Improvement Project, the undersigned concur that the portion of Alternative 6 found within the town limits of Georgetown to be the preferred alternative for the Town of Georgetown. This concurrence is contingent upon resolution of all unresolved issues during the final design of the project.

Lynn A Granger Mayor / Georgetown
(Signature) (Title)

Lynn A Granger
(Name Printed)

APPENDIX D:

Memorandum of Agreement

MEMORANDUM OF AGREEMENT

BETWEEN FEDERAL HIGHWAY ADMINISTRATION

AND THE COLORADO STATE HISTORIC PRESERVATION OFFICER

REGARDING THE PROPOSED IMPROVEMENT OF

COLORADO FOREST HIGHWAY 80, GUANELLA PASS ROAD

WHEREAS, Leavenworth Mountain is the backdrop to the historic setting of Site 5CC3, the Georgetown-Silver Plume National Historic Landmark District (GSPNHLD), the Town of Georgetown believes that any improvement of the switchbacks on the existing roadway may adversely affect the visual quality of the cultural landscape within the District. This 1,331 hectare (3,288 acre) historic district includes the towns of Georgetown and Silver Plume and the valley between the two communities within T4S, R74W, Sections 5, 8, 17, 18, 19, and 20; and T4S, R75W, Sections 13 and 24. The Federal Highway Administration (FHWA) has determined that the proposed improvement of Colorado Forest Highway 80, Guanella Pass Road (undertaking) may have an adverse effect on, the GSPNHLD, which is listed in the National Register of Historic Places, and has consulted with the Colorado State Historic Preservation Officer (SHPO) pursuant to 36 CFR Part 800, regulations implementing Section 106 of the National Historic Preservation Act (16 U.S.C. Section 470f); and

WHEREAS, the Federal Highway Administration has consulted with the Comanche, Eastern Shoshone, Northern Arapaho, Northern Cheyenne, Shoshone-Bannock, Southern Ute, Northern Ute (Uintah and Ouray Reservation), Ute Mountain Ute (Colorado Chapter), Ute Mountain Ute (Towaoc), Ute Indian Tribe (Colorado Chapter), and White Mesa Ute tribes, in accordance with 36 CFR 800.2(c)(3), and the consulting parties agree that Indian Tribes have raised no objection to the proposed undertaking; and

WHEREAS, the Federal Highway Administration has consulted with Georgetown, Colorado regarding the effects of the undertaking on the GSPNHLD and has invited them to sign this MOA as a concurring party; and

WHEREAS, in accordance with 36 CFR 800.10(c) the Federal Highway Administration has notified the Secretary of Interior of its adverse effect determination regarding the GSPNHLD and the Secretary has chosen not to participate in the consultation; and

WHEREAS, in accordance with 36 CFR Section 800.6(a)(1), the Federal Highway Administration has notified the Advisory Council on Historic Preservation (Council) of its adverse effect determination with specified documentation and the Council has chosen not to participate in the consultation pursuant to 36 CFR Section 800.6(a)(1)(iii);

NOW, THEREFORE, the FHWA and the Colorado SHPO agree that the undertaking

shall be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on historic properties:

STIPULATIONS

The FHWA will ensure that the following measures are carried out to mitigate the adverse effects on the visual quality of the GSPNHLD on Leavenworth Mountain :

I. **Mitigation Measures:**

A. Minimize tree removal.

B. Coordinate the selection of materials to be used for retaining walls and guardrail for the portion of the road located in the backdrop of the GSPNHLD with representatives of Georgetown.

C. Use retaining walls in select locations to minimize cut and fill slopes. The design materials used in the retaining walls will attempt to blend with the forest and adjacent natural materials. Cut walls will be faced with indigenous dry stack rock. The materials for fill walls will be determined jointly by Georgetown and the FHWA.

D. Minimize cut slopes where possible. Where cut slopes are necessary, they should typically not exceed a 50 percent (27 degree) slope. A 30 percent (18 degree) slope is preferable to increase the possibility for revegetation.

E. All guardrails will be a natural appearance design (timber, naturally weathered rail, or other materials). On the face of Leavenworth Mountain, guard wall with a natural rock face will be used instead of guard rail. Where ever guardrail is required within the District, but beyond the face of Leavenworth Mountain, guardrail will be steel backed timber as described in Figure II-23, page II-52 of the FEIS.

F. All sign posts and sign backs will be dark brown in color.

G. Where appropriate, exposed rock will be stained where cuts occur into bedrock in visually sensitive areas. This will minimize the stark color contrasts of very lightly colored freshly cut rock with the dark background of the forested mountainside.

H. Blast in such a way as to avoid the defined, vertical drill holes that sometimes result. Explosives will be used in such a way that the faces of the rock outcrops are fractured, imitating a natural appearance.

I. Implement landscaping and revegetation on all abandoned roadway segments and adjacent disturbed land that is capable of sustaining vegetation. Revegetation of trees and shrubs should be as close as practical to the new roadway without compromising safety.

J. Stabilize and revegetate existing barren slopes where practical using native vegetation techniques and techniques similar to those developed for areas of new disturbance. The Guanella Pass Scenic Byway CMS will be used as a guide for enhancing the visual quality of the roadway. Where possible, the strategies in the CMS to preserve the rural and rustic character of the Guanella Pass corridor will be implemented to maintain consistency between the CMS and the project. Some of the visual strategies include creating a buffer zone between formal parking areas and the roadway and softening the effects of the presence of the road in the environmental setting.

K. FHWA will continue to consult with Georgetown during the final design of the project regarding the design of the roadway and adjacent roadway.

L. FHWA will construct a bridge at 7th Street along the proposed Argentine/Brownell Street construction haul route through Georgetown to mitigate construction impacts within the GSPNHLD. FHWA will consult with the SHPO and Georgetown on the final design of the bridge to ensure that it is visually compatible with the historic character of the GSPNHLD.

II. MONITORING AND REPORTING

By December 31st each year following the execution of this agreement until it expires or is terminated, the FHWA will provide all parties to this agreement a summary report detailing work undertaken pursuant to its terms. Such report will include any scheduling changes proposed, any problems encountered, and any disputes and objections received in FHWA's efforts to carry out the terms of this agreement. Failure to provide such summary report may be considered noncompliance with the terms of this MOA pursuant to Stipulation VI, below.

III. DURATION

This agreement will be null and void if its terms are not carried out within ten (10) years from the date of its execution. Prior to such time, the FHWA may consult with the other signatories to reconsider the terms of the agreement and amend in accordance with Stipulation VI below.

IV. POST-REVIEW DISCOVERIES

If potential historic properties are discovered or unanticipated effects on historic properties found, the FHWA shall implement the following provisions:

A. Cessation of construction activities that could further disturb previously undiscovered properties.
B. Assessment of eligibility through implementation of 36 CFR 800.13(c) provisions.

C. Assessment of damage to properties resulting from construction-related activities and evaluation of resultant integrity.
D. All parties of this MOA and the Tribes are immediately contacted for consultation if appropriate.
E. Implementation of 36 CFR 800.13(a)(2) provisions by the FHWA to resolve adverse effects.

V. DISPUTE RESOLUTION

Should any party to this agreement object at any time to any actions proposed or the manner in which the terms of this MOA are implemented, the FHWA will consult with the objecting party(ies) to resolve the objection. If the FHWA determines, within 30 days, that such objection(s) cannot be resolved, the FHWA will:

A. Forward all documentation relevant to the dispute to the Council in accordance with 36 CFR Section 800.2(b)(2), including FHWA's proposed response to the objection. Upon receipt of adequate documentation, the Council shall review and advise the FHWA on the resolution of the objection within 30 days. Any comment provided by the Council, and all comments from the parties to the MOA, will be taken into account by the FHWA in reaching a final decision regarding the dispute.

B. If the Council does not provide comments regarding the dispute within 30 days after receipt of adequate documentation, the FHWA may render a decision regarding the dispute. In reaching its decision, the FHWA will take into account all comments regarding the dispute from the parties to the MOA.

C. The FHWA's responsibility to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remain unchanged. The FHWA will notify all parties of its decision in writing before implementing that portion of the Undertaking subject to dispute under this stipulation. The FHWA's decision will be final.

VI. AMENDMENTS AND NONCOMPLIANCE

If any signatory to this MOA, including any invited signatory, determines that its terms will not or cannot be carried out or that an amendment to its terms must be made, that party shall immediately consult with the other parties to develop an amendment to this MOA pursuant to 36 CFR §§800.6(c)(7) and 800.6(c)(8). The amendment will be effective on the date a copy signed by all of the original signatories is filed with the Council. If the signatories cannot agree to appropriate terms to amend the MOA, any signatory may terminate the agreement in accordance with Stipulation VIII, below.

VII. TERMINATION

If an MOA is not amended following the consultation set out in Stipulation VI., it may be

terminated by any signatory or invited signatory. Within 30 days following termination, the FHWA will notify the signatories if it will initiate consultation to execute an MOA with the signatories under 36 CFR §800.6(c)(1) or request the comments of the Council under 36 CFR §800.7(a) and proceed accordingly.

Execution of this Memorandum of Agreement by the FHWA, the Colorado SHPO, and Georgetown and the submission of documentation and filing of this Memorandum of Agreement with the Council pursuant to 36 CFR Section 800.6(b)(1)(iv) prior to the FHWA's approval of this undertaking, and implementation of its terms evidence that the FHWA has taken into account the effects of this undertaking on historic properties and afforded the Council an opportunity to comment.

SIGNATORIES:

Federal Highway Administration

By: _____ Date: 12/10/02

Title: Division Engineer

Colorado State Historic Preservation Officer

By: _____ Date: 12/11/02

Title: Deputy SHPO

CONCURING PARTY:

Georgetown, Colorado

By: _____ Date: 12/17/02

Title: Mayor