

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

FINAL ENVIRONMENTAL IMPACT STATEMENT

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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Date

**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	$8.346 \times 10^{-9}$	lbs/gal
lbs/gal	$1.198 \times 10^8$	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). Slopes are expressed as rise:run.

## LIST OF ACRONYMS AND ABBREVIATIONS USED IN THIS DOCUMENT

3R	Resurfacing, Restoration, Rehabilitation	MSE	Mechanically Stabilized Earth
AADT	Annual Average Daily Traffic	MSL	Mean Sea Level
AASHTO	American Association of State Highway and Transportation Officials	N/A	Not Applicable or Not Available
ADA	Americans with Disabilities Act	NaCl	Sodium Chloride
ADT	Average Daily Traffic	NAGPRA	Native American Graves Protection and Repatriation Act
AIRFA	American Indian Religious Freedom Act	NEPA	National Environmental Policy Act
AMD	Acid Mine Drainage	NF	National Forest
APE	Area of Potential Effect	NOI	Notice of Intent
AST	Above-ground Storage Tank	NPDES	National Pollutant Discharge Elimination System
ASTM	American Society for Testing and Materials		
BA	Biological Assessment	NRHP	National Register of Historic Places
BE	Biological Evaluation	NTU	Nephelometric Turbidity Unit
BMPs	Best Management Practices	OSHA	Occupational Safety and Health Administration or Act
BR	Biology Report		
CDOT	Colorado Department of Transportation	PCB	polychlorinated biphenyl
CDOW	Colorado Division of Wildlife	PLH	Public Lands Highway
CDPHE	Colorado Department of Public Health and Environment	ppm	parts per million
		PSE	Plans, Specifications, and Estimates
CFLHD	Central Federal Lands Highway Division	RIM	Recreation Information Management
CFR	Code of Federal Regulations	ROD	Record of Decision
Cl	Chlorine	ROW	Right-of-Way
CMS	(Scenic and Historic Byway) Corridor Management Strategy	RVD	Recreation Visitor Days
		SADT	Seasonal Average Daily Traffic
CNHP	Colorado Natural Heritage Program	SBC	(Guanella Pass) Scenic Byway Committee
CWA	Clean Water Act	SDEIS	Supplemental Draft Environmental Impact Statement
dB(A)	Decibels (A-weighted)		
DEIS	Draft Environmental Impact Statement	SEE	Social, Economic, and Environment
DOI	Department of the Interior	SHPO	State Historic Preservation Officer
EIS	Environmental Impact Statement	SS	Sensitive Species
EPA	Environmental Protection Agency	SWMP	Storm Water Management Plan
ESA	Endangered Species Act	T&E	Threatened and Endangered
FEIS	Final Environmental Impact Statement	TCP	Traditional Cultural Property
FEMA	Federal Emergency Management Agency	TES	Threatened, Endangered, and Sensitive
FHWA	Federal Highway Administration	TRR	Tumbling River Ranch
FS	Forest Service	µg/L	micrograms/Liter
GASRGL	Georgetown, Argentine, Snake River Wagon Road, Green Lake Wagon Road	UCCWA	Upper Clear Creek Watershed Association
		USACE	United States Army Corps of Engineers
GSPNHLD	Georgetown-Silver Plume National Historic Landmark District	USC	United States Code
		USFWS	United States Fish and Wildlife Service
IO	Isolated Occurance	USGS	United States Geological Survey
ISA	Initial Site Assessment	USPHS	United States Public Health Service
km/h	kilometers per hour	vpd	Vehicles per day
LEO	Law Enforcement Officer	VQO	Visual Quality Objectives
LUST	Leaking Underground Storage Tank	WEPP	Water Erosion Prediction Project
MCL	Maximum Contaminant Level	WQCC	Water Quality Control Commission
MgCl <sub>2</sub>	Magnesium Chloride	WQCD	Water Quality Control Division
MIS	Management Indicator Species	WET	Wetland Evaluation Technique
MOA	Memorandum of Agreement		
mph	miles per hour		

## **ABSTRACT**

This Final Environmental Impact Statement provides a detailed evaluation of alternatives proposed for 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 begins in Grant, Colorado and extends 38.2 kilometers (23.6 miles) north to the Town of Georgetown, Colorado.

This document evaluates six alternatives for the Guanella Pass Road project – five from the alternatives evaluated in the Draft Environmental Impact Statement and one (the Preferred Alternative) from the Supplemental Draft Environmental Impact Statement prepared for this project. The Preferred Alternative incorporates design features consistent with a road given the functional classification of “rural local road.” The design speed for the road ranges from 30 to 50 km/h (20 to 30 mph). The Preferred Alternative is designed to accommodate a Class C recreation vehicle with a wheelbase of 5.2 meters (17 feet). This design speed and the size of the design vehicle permit a curvilinear alignment that closely follows the existing roadway. The proposed roadway width (travel lanes and shoulders) for the Preferred Alternative will be 6.6 meters (22 feet). The surface types used for the Preferred Alternative will be asphalt pavement with chip seal, macadam, and gravel with a dust suppressant.

Several road management strategies are needed for the Preferred Alternative to be a viable alternative. These strategies require the participation of Clear Creek County, Park County, the Town of Georgetown, and the Forest Service in policy decisions and enforcement for several of the design considerations.

This Final Environmental Impact Statement describes the Preferred Alternative and the other five alternatives considered. This document evaluates and documents the social, economic, and environmental impacts that may be created by each of the alternatives. Impacts that may result from the alternatives are described, along with appropriate mitigation measures.

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## A. INTRODUCTION

### 1. Program Agencies and The National Environmental Policy Act (NEPA) Process

The Forest Highway Program is administered by a three-agency group known as the Program Agencies. The function of the Program Agencies is to maintain a Forest Highway Program and to make decisions concerning projects in the program. The Program Agencies in Colorado are the Federal Highway Administration (FHWA), the United States Forest Service (FS), and the Colorado Department of Transportation (CDOT). Highways designated for improvement under the Forest Highway Program are selected at an annual Program Agency Meeting. The routes selected are those that serve both the National Forests (NF) and the State (or counties where appropriate) and have the greatest need for improvement. The Guanella Pass Road (Colorado Forest Highway 80) project was selected for inclusion in the program at the 1993 Program Agency meeting. Surveys, topographical mapping, scoping meetings, engineering studies, preliminary roadway design, and environmental studies have been conducted to evaluate potential roadway improvements.

The intent of NEPA is to declare a national policy that:

- Encourages productive and enjoyable harmony between people and the environment,
- Promotes efforts that prevent or eliminate damage to the environment while stimulating health and welfare of all living things, and
- Enriches the understanding of the ecological system and natural resources important to the nation.

NEPA establishes environmental policy for the nation, provides an interdisciplinary framework for federal agencies to prevent environmental damage, and contains “action-forcing” procedures to ensure that federal agency decision-makers take environmental factors into consideration. This final environmental impact statement (FEIS) is part of the NEPA process.

An environmental impact statement (EIS) is prepared when a federal agency determines that the action is likely to cause a significant impact on the environment (23 CFR 771.123(a)). The general steps for an EIS are as follows:

- Determine the lead agency for the project.
- Publish in the Federal Register a Notice of Intent (NOI) to prepare an environmental document.
- Conduct a fact-finding and issue-discovery (scoping) process to define the project.
- Prepare a draft environmental impact statement (DEIS).

- Circulate the DEIS for review.
- File the DEIS with the Environmental Protection Agency (EPA).
- Conduct a public hearing on the DEIS.
- Prepare a FEIS which directly answers questions raised through circulation of the DEIS and identifies a Preferred Alternative.
- Release the FEIS to the public.
- File the FEIS with the EPA.
- Prepare a Record of Decision (ROD) identifying the selected alternative and explaining the basis for the project decision.

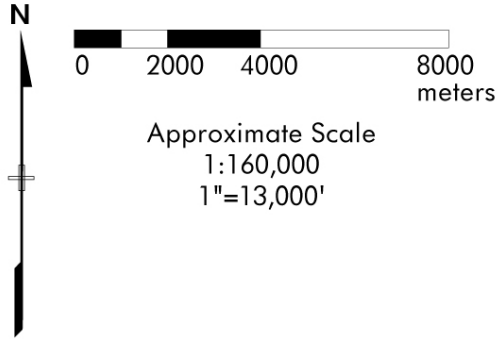
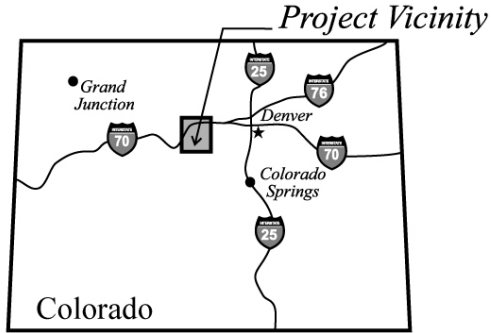
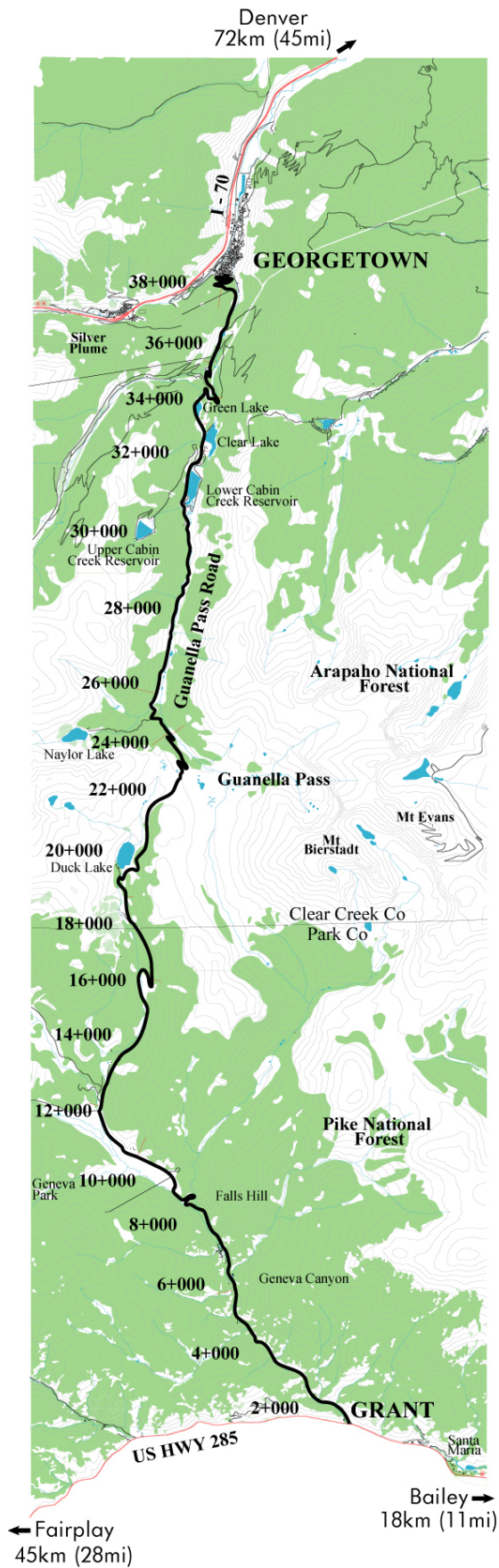
Decisions made concerning this project are ultimately the responsibility of the FHWA with input from Park County, Clear Creek County, the Town of Georgetown, and the cooperating agencies. The cooperating agencies include the Colorado Division of Wildlife (CDOW), the CDOT, the EPA, the U.S. Army Corps of Engineers (USACE), and the FS (see **Appendix A**). No sooner than 30 days after the FEIS is filed with the EPA, an agency decision will be made and a ROD will be published.

## 2. Description of the Proposed Action

This FEIS evaluates improvements to Colorado Forest Highway 80 (Park County Road 62, Clear Creek County Road 381, Forest Development Road 118), Guanella Pass Road. The proposed improvements begin at the intersection of US Highway 285 and Guanella Pass Road in Grant, Colorado. The roadway extends northward, crosses Guanella Pass at an elevation of 3,547 meters (11,669 feet), and ends in Georgetown, Colorado (Figure S-1). The project corridor lies within the Pike and Arapaho National Forests in Park and Clear Creek Counties, Colorado.

Based upon environmental concerns, current and projected traffic volumes, roadway deficiencies, maintenance problems, safety considerations, and other needs detailed in **Chapter I: Purpose and Need**, the Forest Highway Program Agencies propose to improve Guanella Pass Road. The EIS process is the tool used to identify and evaluate improvement alternatives.

Improvements under the build alternatives lie within the existing Guanella Pass Road corridor. Roadway realignments outside the existing road corridor were considered and eliminated from further consideration (see **Chapter II.F: Other Alternatives Considered and Eliminated**). The alternatives presently under consideration include 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 definite boundaries. The roadway will be surfaced with a combination of asphalt with chip seal, gravel, and/or a stabilized alternative surface type. Major construction items will include excavation of material sources, clearing and grading, slope and subgrade stabilization, drainage improvements, retaining walls,



Approximate Scale  
1:160,000  
1"=13,000'

Figure S-1  
Guanella Pass Vicinity Map



revegetation, placement of crushed aggregate base and driving surface, parking area and walkway construction, signs, striping, guard rail, 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. All construction items will conform to the Americans with Disabilities Act (ADA).

### **3. Other Federal Actions Required**

Other necessary federal actions required to implement the proposed action include:

#### **U.S. Forest Service**

- Letter of Consent (Federal Land Policy and Management Act 36 CFR 251) – To allow the FHWA to use NF lands for road purposes.
- Special Use Permit – To allow off-site construction related activities on NF lands.
- Mineral Material Permit – To allow the FHWA to take borrow material from NF lands.
- Timber Settlement Agreement – To allow the FHWA to harvest commercial timber on NF lands before disturbance. Harvesting would be conducted only to clear the area necessary for road construction.
- A federal land transportation easement deed transfer from the FS to the counties (who maintain the road).

#### **U.S. Fish and Wildlife Service**

- Section 7 Consultation (Endangered Species Act 50 CFR 402) – To ensure that the action taken would not jeopardize the continued existence of threatened or endangered species, or result in the destruction or modification of critical habitat.

#### **U.S. Army Corps of Engineers**

- 404 Permit (Clean Water Act 33 CFR 320) – to allow the FHWA to discharge dredged or fill material into waters of the U.S., including wetlands.

#### **Colorado Department of Public Health and Environment**

- 401 Certification – To certify that any activity requiring a federal license or permit that may result in any discharge into waters of the U.S. would not cause or contribute to a violation of state surface water quality standards.
- National Pollution Discharge Elimination System (NPDES) Permit – To allow discharge of storm water from projects 2 hectares (5 acres) or more in area to state waters. In March 2003, the permit would be needed for 0.4 hectares (1 acre) or more. A construction dewatering permit and an authorization for a temporary increase in turbidity also would be needed.

If a build alternative is selected, application for these permits will be made after publication of the ROD.

#### **4. Reasonably Foreseeable Major Actions**

In 1991, the CDOT began widening US Highway 285 to four lanes, starting at Parmalee Gulch Road and heading west. The project is currently in Phase V, which includes widening the highway from Eagle Cliff Road to Foxton Road (approximately 40 kilometers (25 miles) east of Guanella Pass Road). This work is scheduled to be completed in 2003. A feasibility study was completed in March of 2002 investigating the possibility of improving the road from Foxton Road to the Town of Fairplay. Based on the feasibility study finding that exiting traffic counts drop off dramatically just after Bailey, the CDOT proposed expanding US Highway 285 to four lanes to just west of Bailey, approximately 18 kilometers (11 miles) east of the intersection of Guanella Pass Road with US Highway 285, and no further. The CDOT project manager of the US Highway 285 reconstruction project, Mr. Kim Patel, indicated that only spot improvements were likely to be done to US Highway 285 between Bailey and Grant. Due to the uncertainty associated with the nature of improvements being made to US Highway 285 in the vicinity of Guanella Pass Road and because it has been indicated that any improvements performed in the area will be relatively minor in nature, the FHWA concluded that this was not a reasonably foreseeable action and therefore did not include the work to be done on US Highway 285 in its cumulative impact analysis.

The Pike-San Isabel NF is scheduled to implement a mandatory self-registration permit program for its wilderness areas, including the Mt. Evans Wilderness Area. This program should be in place by the year 2003, and will allow the FS to monitor area usage and provide educational and regulatory information to visitors.

The FS is currently building a section of the Continental Divide National Scenic Trail approximately six miles to the west of Guanella Pass. The trail, when completed, will run from Canada to Mexico. The section of the trail closest to Guanella Pass Road is scheduled for completion by the year 2007.

The FS, the counties, Georgetown, and other stakeholders have prepared a management strategy for the Guanella Pass Road Scenic and Historic Byway. The CMS prescribes general recommendations for the entire byway as well as specific desired conditions and action items for nine separate management zones within the byway. However, the CMS is only a guidance document, not a decision document, and no funding is attached to the CMS. Therefore, it is uncertain which, if any, of the recommendations will be implemented, and in what time frame.

#### **5. Unresolved Issues**

Georgetown has not yet signed a Forest Highway Cooperating Agency Agreement with the FHWA. This agreement is needed under the Forest Highway Program to identify the responsibilities of agencies that have ownership of the road. Prior to signing the cooperative agreement, Georgetown has requested that the FHWA provide additional right-of-way (ROW) acquisition information for the Town of Georgetown, a clear statement of FHWA liability for any potential damage to structures and resources within the National Landmark District, and a description of mitigation measures for construction impacts. The FHWA is currently working with representatives from the Town of Georgetown to address these concerns. The FHWA

anticipates having a signed Forest Highway Cooperating Agency Agreement by the release of the ROD. The other road owners, Park and Clear Creek Counties, have signed Forest Highway Cooperating Agency Agreements.

## 6. Areas of Controversy

The areas of controversy for the Guanella Pass project are:

1. The FS is in favor of providing a hardened surface (asphalt pavement and macadam) for the entire length of the project in an effort to preserve and protect the water quality of adjacent streams and wetland/riparian areas. Many public comments have expressed concern regarding the increase in traffic and vehicle speeds that may be associated with the increased amount of hardened surface on Guanella Pass Road, as well as the visual impacts the hardened surface and associated striping might have on the rustic character of the area.
2. The Town of Georgetown is concerned about the impacts the construction activities associated with Guanella Pass Road would have on the residents, businesses, and infrastructure of the town.
3. The Town of Georgetown and many public comments received on the DEIS and Supplemental Draft Environmental Impact Statement (SDEIS) have indicated that the FHWA needs to further reduce the design and extent of the road improvements to further minimize environmental impacts and reduce projected traffic increases. It is the FHWA's position that Alternative 6 (the Preferred Alternative) is the minimum that can be built and no further reduction in design standards can be made. The FHWA contends that environmental impacts have been reduced to the greatest extent possible. Any reduction in projected traffic increases can be accomplished only by the land management agencies (FS, Clear Creek County, Park County, and Georgetown) implementing policies that serve to restrict use of the area.

## B. NEEDS AND OBJECTIVES OF THE PROJECT

The purpose of the Guanella Pass Road improvement project is based on the need to balance transportation needs (including recreational access to FS lands) and roadway maintenance needs with the sensitive nature of the environment. These needs are presented and discussed in detail in **Chapter I.C: Purpose of and Need for the Project**. Table S-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.

**Table S-1: Objectives of the Guanella Pass Road Improvement Project**

<b>Transportation</b>	
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.
<b>Maintenance</b>	
IV.	Reduce the anticipated maintenance costs to the counties (and town**) maintaining the road.
V.	Repair roadway drainage problems.
<b>Environmental</b>	
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.
* Year 2015 traffic volumes (used in the DEIS) have been revised to year 2025 traffic volumes to show the 20-year traffic projections, based on the estimated project completion date.	
** Added after issuance of DEIS.	
*** Key Issues for this project were identified as: Social Environment, Water Resources, Visual Quality, Recreational Resources, Plants and Animals, and Construction Impacts.	

**C. ALTERNATIVES CONSIDERED**

Six alternatives are evaluated in this FEIS. Other alternatives and several realignment options were also considered, but were screened from the analysis prior to the environmental evaluation. These are discussed in **Chapter II.F: Other Alternatives Considered and Eliminated**. More details on the alternatives (including figures) are presented in **Chapter II: Alternatives**. The following alternatives are evaluated in this FEIS.

**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 culvert problems. Alternative 1 addresses Project Objective VIII and partially addresses Project Objective VII.

**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 some 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, VI, and VII, and partially addresses Project Objective VIII.

### **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.

### **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). The four improvement segments are shown in Figure II-3 of **Chapter II: Alternatives**. 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.

### **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 V, and partially addresses Project Objectives I, II, IV, VI, VII, and VIII.

### **Alternative 6: The Preferred Alternative**

During the comment period for the DEIS, several major issues were identified. The majority of commentors agreed with the need for repair or maintenance of the road, but not to the extent described by the build alternatives in the DEIS. The commentors 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, Alternative 6, for public consideration. These work group sessions were held from early February through early May 2000 and were open to the public for observation. Alternative 6 was presented in the SDEIS in November of 2000.

Alternative 6 includes a change in the functional classification of the roadway from a rural collector road 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 originally proposed 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, 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 are evaluated in this document, and macadam has been selected as the preferred surface. Although the decision on surface type will not be made until publication of the ROD, “macadam” will generally be used in this document to reduce usage of the potentially confusing term “alternative surface type”.

For Alternative 6, the current paved sections of the road will be resurfaced using asphalt pavement with chip seal. Most of the current gravel 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: 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) would be surfaced with macadam at the request of the maintaining agencies (Park County and Clear Creek County) and the FS to reduce costs associated with maintenance of the road and to reduce sedimentation and gravel runoff into the sensitive wetland ecosystems. Additional information on the exact locations of the surface types in particular sections of the road can be found in **Chapter II.B.6a: Surfacing Options**.

Alternative 6 has been selected as the preferred alternative based on environmental studies addressed in this FEIS and consultation with the public, Town of Georgetown, Clear Creek and Park County Commissioners, State of Colorado, FS, U.S. Fish and Wildlife Service, USACE, EPA, and local tribes. The preferred 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, III, and V, and partially addresses Project Objectives II, IV, VI, VII, and VIII.

## D. KEY ISSUES

An extensive public and agency involvement process was completed for the Guanella Pass Road improvement project. A detailed description of the scoping activities that were performed is included in **Chapter VII: Project Coordination**. 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 traditional cultural properties. Water Resources include water quality, wetlands, and 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, 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.

## E. MAJOR ENVIRONMENTAL IMPACTS

**Chapter III: Affected Environment and Environmental Consequences** describes the environmental setting of the study area and the impacts (beneficial and adverse) the proposed project may have on the environment. A summary of these impacts is provided below.

### 1. Beneficial Impacts

Major beneficial impacts, which vary according to alternative, include:

- Improving existing safety deficiencies
- Improving operational efficiency for roadway users
- Decreasing roadway maintenance costs
- Improving stream crossings for fish passage

- Improving recreational access
- Repairing existing erosion problem areas
- Reducing sedimentation runoff by replacing gravel surfaces with a more stable alternative
- Improving driving experience for forest users
- Enhancing visual experience in revegetated areas
- Improving drainage
- Improving control of access to adjacent land.

## **2. Adverse Impacts**

Major adverse impacts (before mitigation), which vary according to alternative, include:

- Increasing potential for vehicle and wildlife conflicts
- Filling of wetland and riparian areas
- Removing and further fragmenting wildlife habitat
- Affecting community character including the visual impact of the alternatives on the Georgetown-Silver Plume National Historic Landmark District
- Creating construction impacts such as noise and traffic delays
- Creating visual impacts by changing the roadway width and surface type and adding retaining walls
- Disturbing sites of potentially hazardous material.

Mitigation of these adverse impacts is discussed in **Chapter IV: Mitigation**.

## **3. Environmental Impacts Summary**

A summary of the environmental impacts of the studied alternatives is presented in Table S-2. **Chapter III: Affected Environment and Environmental Consequences** provides a detailed discussion of these impacts.



## F. MITIGATION OF IMPACTS

The FHWA is committed to mitigating environmental impacts that result as part of the Guanella Pass Road improvements. The mitigation efforts that are necessary as part of the Guanella Pass Road improvements will include the treatment of impacts to the following resources or activities:

- Cultural Resources
- Traditional Cultural Properties
- Water Quality
- Wetland and Riparian Communities
- Visual Quality
- Recreational Resources
- Plants and Animals
- Federally Listed and Other Sensitive Species
- Construction
- Hazardous Materials
- Section 4(f) Resources

Resources not listed above require no mitigation efforts. Details on mitigation commitments can be found in **Chapter IV: Mitigation**.

**Table S-2**  
**Summary of Environmental Impacts**

	Alternative 1 (No-Action)	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6 (Preferred 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)
<b>1. Social Environment</b>						
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.					
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. May impact 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 may impact 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.					
<b>2. Water Resources</b>						
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 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 S-2  
Summary of Environmental Impacts**

	Alternative 1 (No-Action)	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6 (Preferred Alternative)
<b>3. Visual Quality</b>						
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 may be used to give the paved sections a more rustic character. See <b>Chapter II.B.6a: Surfacing Options</b> 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 <b>Chapter II.G.1: Retaining Wall Design and Slope Treatments and II.G.3: Guardrail Design and Materials</b> for more information.				
<b>4. Recreational Resources</b>						
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. Potential winter closure of Guanella Pass Road may impact the recreational use of the area by moving the concentration of activity closer to the closure parking areas. See <b>Chapter II.E.3: Winter Closure</b> for additional information. Areas farther away from the parking lots will likely see a decrease in winter recreational use. Recreationalists will be farther away from their destinations and this may create a perceived inconvenience.					
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.	
<b>5. Plants and Animals</b>						
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 Alternatives 2 and 3.		Alternative 6 has less construction than Alternatives 2-5.	
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.
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 Findings (preliminary recommendations)	May affect, likely to adversely affect. Potential effects are mainly related to traffic volume and speed, and would be highest under Alternatives 2, 4, and 5, less under Alternative 3, then Alternative 6, and least under Alternative 1.					

**Table S-2  
Summary of Environmental Impacts**

	Alternative 1 (No-Action)	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6 (Preferred Alternative)
Fish Habitat	No changes made to improve the existing conditions. Sedimentation problems continue.	Drainage improvements will greatly reduce sedimentation problems. Fish habitats 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.				
<b>6. Construction Impacts</b>						
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
<b>7. Other Resources</b>						
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.		Disturbance to hazardous material sites 12 and 13.	Disturbance to hazardous material sites 7-9, 12, and 13.	
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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# I. Purpose and Need

## A. INTRODUCTION

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-1 is a map showing the location of Guanella Pass Road with respect to the City of Denver, Colorado. The roadway is 38.2 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 (0.7 kilometer [0.4 mile] of this portion is within Georgetown town limits). The road passes through the Pike and Arapaho NFs and is used primarily (90 percent of traffic) for recreational purposes. Figure I-2 shows the Guanella Pass roadway corridor.

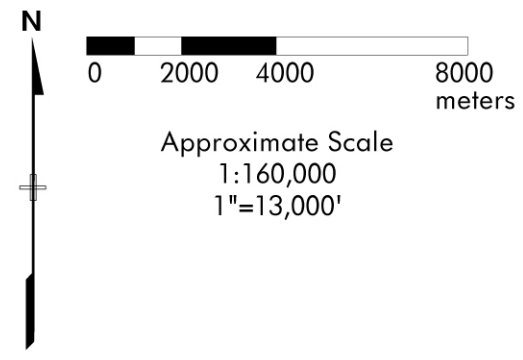
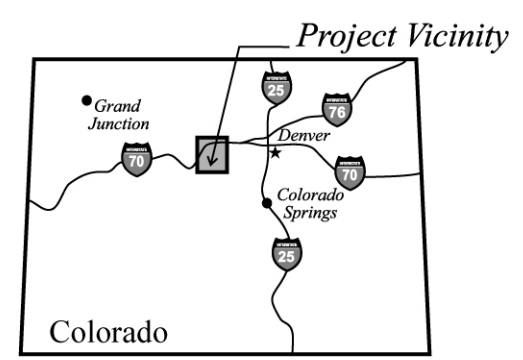
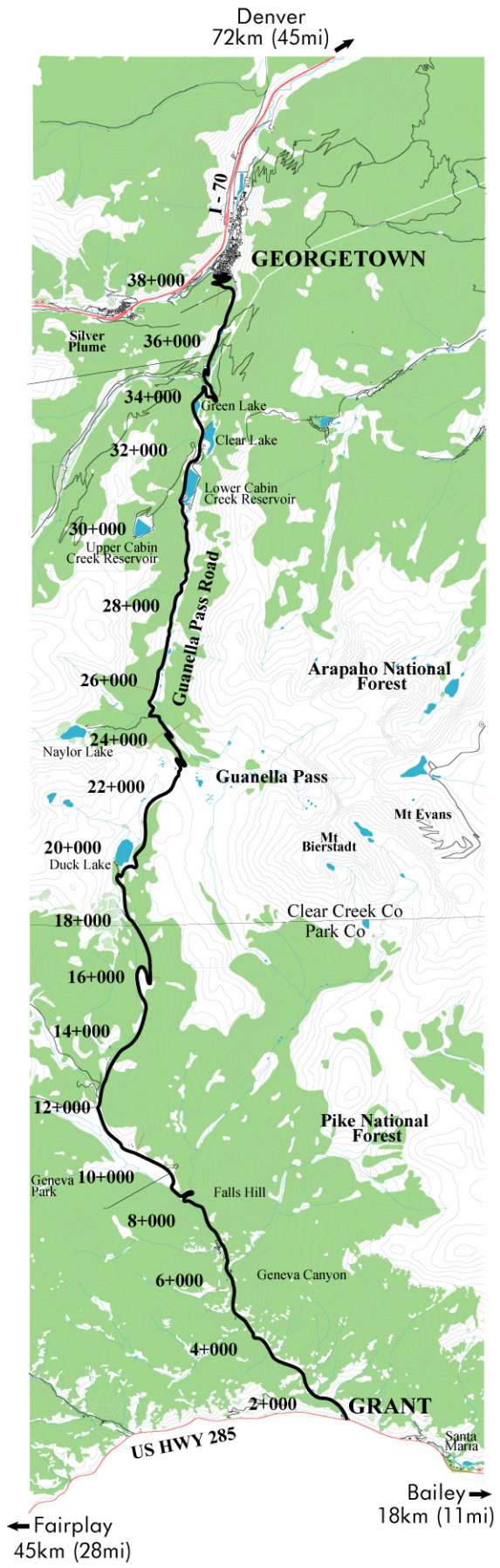
Guanella Pass Road, as it exists today, is an accumulation of the construction and maintenance efforts of five entities including Park County, Clear Creek County, the FS, the Town of Georgetown, and the former Geneva Basin Ski Area. The last major construction work was completed in the early 1960s. The 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.

## B. PROJECT HISTORY

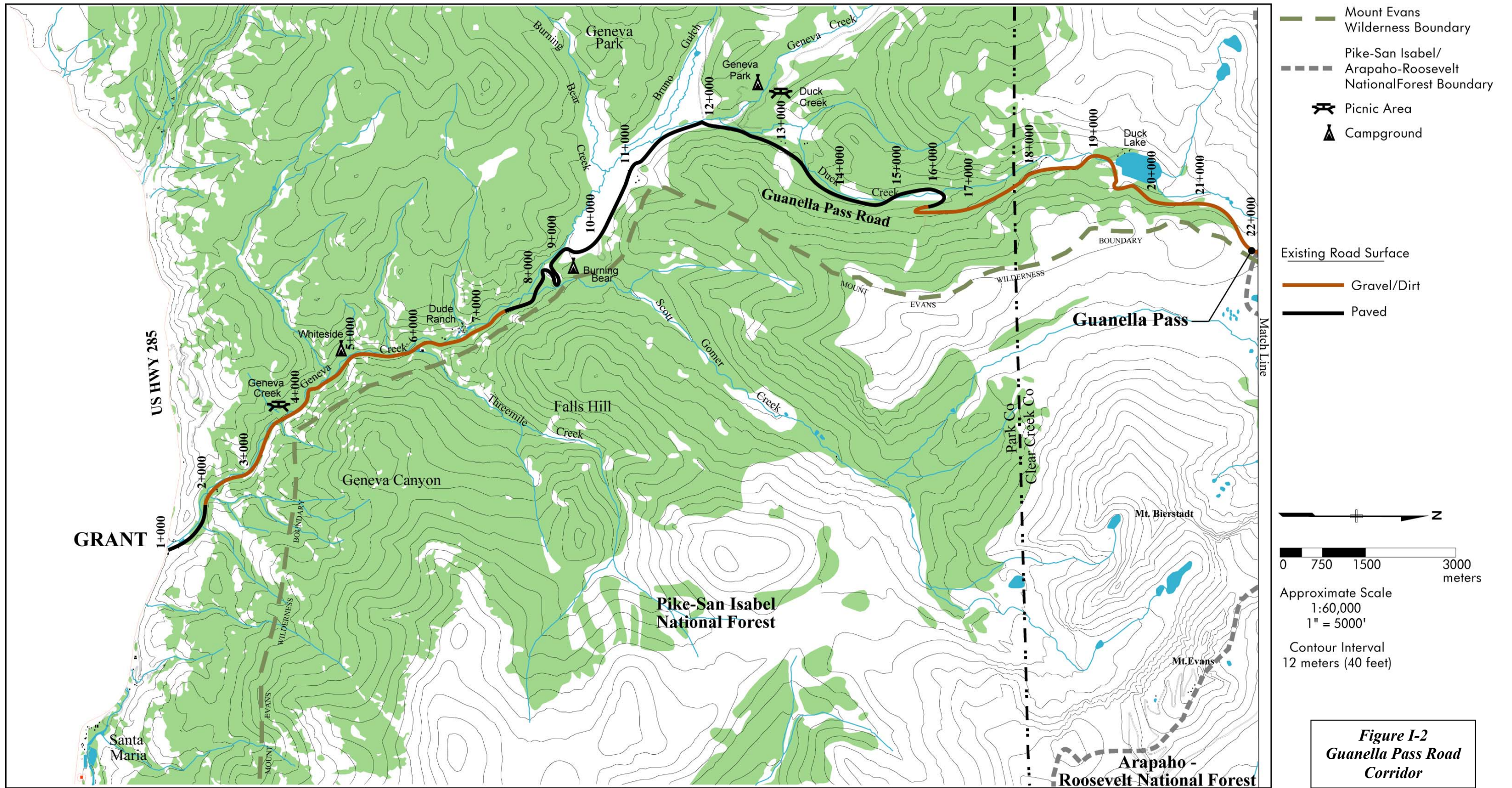
### 1. Project Development

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.

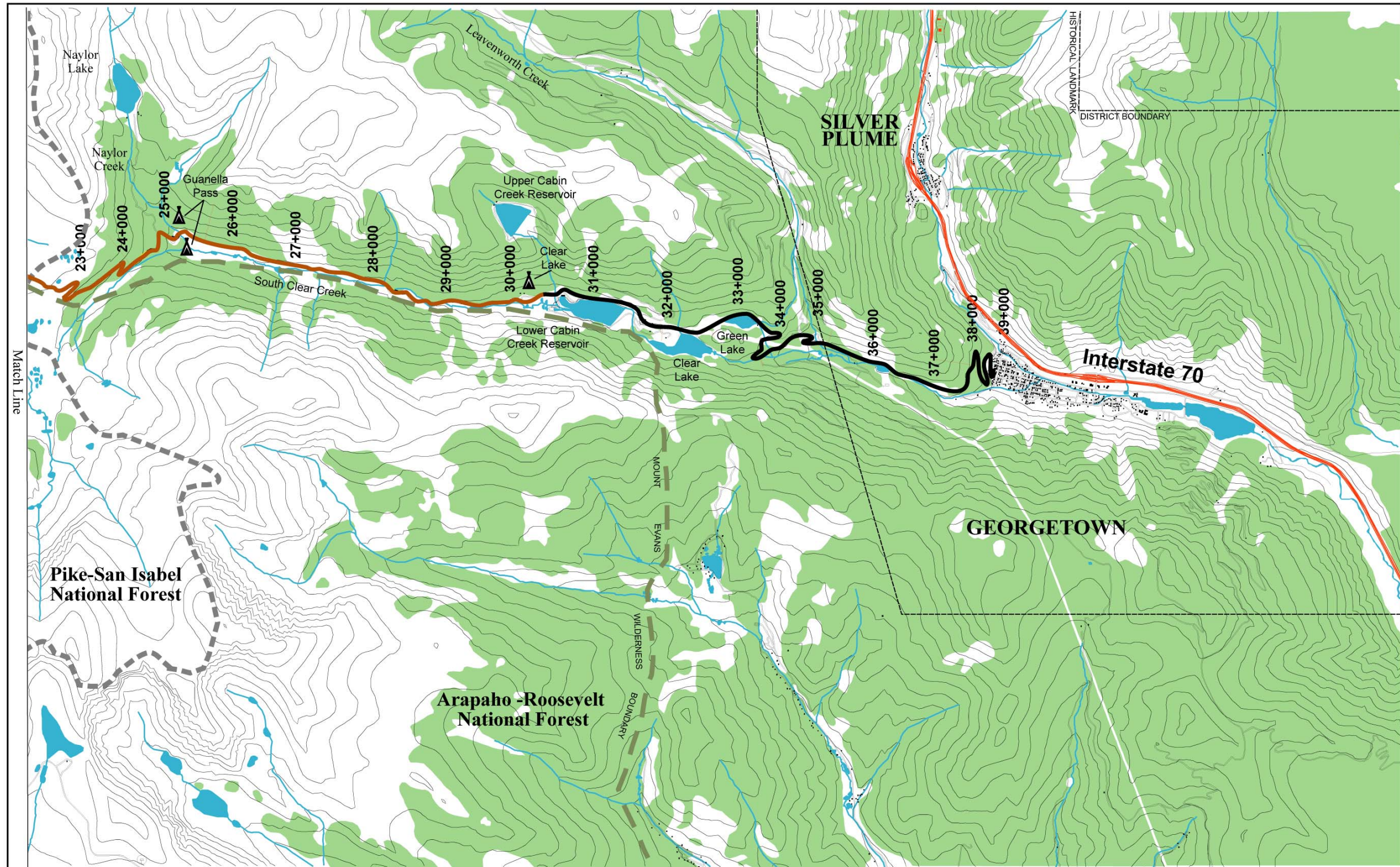
The Forest Highway Program provides federal funding for capital improvements of a special category of public roads that directly serve NF lands nationwide. This roadway system is designated as the Forest Highway road system. The Forest Highway Program is administered by a three-agency group known as the Program Agencies. The function of the Program Agencies is to maintain a continuing Public Lands Highway (PLH) 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 PLH Program are selected at an annual Program Agency meeting. The routes selected are those that serve both the NFs and the State (or Counties where appropriate) and have the greatest need for improvement. Forest Highway



**Figure I-1**  
**Regional Context Map**







Georgetown - Silver Plume National Historical Landmark District Boundary

Mount Evans Wilderness Boundary

Pike-San Isabel/ Arapaho-Roosevelt National Forest Boundary

Picnic Area

Campground

Existing Road Surface

Gravel/Dirt

Paved

0 750 1500 3000 meters

Approximate Scale  
1:60,000  
1" = 5000'

Contour Interval  
12 meters (40 feet)

**Figure I-2 (cont.)  
Guanella Pass Road  
Corridor**

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 PLH Program meeting. Initial field reconnaissance studies began 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 FHWA *Reconnaissance and Scoping Report*, 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.

## **2. Project Scoping and Public Involvement**

The FHWA *Reconnaissance and Scoping Report*, completed in 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.

As a result of the initial studies and scoping meetings, the proposed roadway width was reduced to 7.2 meters (24 feet) to minimize impacts and construction costs.

### **3. Draft Environmental Impact Statement**

*The Colorado Forest Highway 80 - Guanella Pass Road - DEIS* was prepared in 1997 and early 1998. The DEIS identified a No-Action Alternative and four build alternatives as potential solutions to the need for road improvements. The FHWA released the DEIS in June 1999 with the comment period originally scheduled to end August 30, 1999. Public 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.
- Comments from the Town of Georgetown were received by letter, dated August 11, 1999, from Janet Claus, Mayor, and in a letter dated August 25, 1999, from Edward Caswall, the Town of Georgetown Attorney. The letter from Mr. Caswall clarified the Town of Georgetown jurisdiction of the northerly 0.7 kilometers (0.4 miles) of the route in Georgetown.
- 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.
- Comments were received from Clear Creek County in a letter dated October 13, 1999.
- Approximately 890 comments were received during the DEIS comment period. The comments received include unique written comments, form letters, telephone conversations, petition signatures, and verbal comments recorded at the public hearings.

### **4. Development of New Alternative – Supplemental DEIS**

During the comment period for the DEIS, several major issues of concern were identified, including the need to develop a new alternative. The majority of commentors agreed with the need for repair or maintenance of the road, but not to the extent described by the build alternatives in the DEIS. The commentors 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 early February through early 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 responsive than the DEIS build alternatives to the environmental setting and the rustic and rural character of the road.

The new alternative, Alternative 6, was presented in the 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. These changes include 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)<sup>1</sup>. The rehabilitation sections constitute 63 percent of the roadway, light reconstruction 18 percent, and full reconstruction 19 percent.<sup>2</sup>

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 the SDEIS 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. An official transcript of each hearing was recorded by a court reporter.

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 unique written comments, form letters, telephone conversations, petition signatures, and verbal comments recorded at the public hearings. The FHWA issued the *SDEIS Summary of Comments* report in April of 2001. This report included copies of each written comment received and transcripts of each public hearing. The report also categorized each comment according to the topic that it addressed. Several comments addressed more than one topic, and thus were assigned to multiple categories. A list of all comments received on both the DEIS and SDEIS and a response for each comment category is given in **Appendix B**.

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<sup>1</sup> The number of segments has since changed due to recent decisions made regarding surface types.

<sup>2</sup> These percentages have changed slightly (one percent or less) due to adjustments made during a recent (2002) field review.

## 5. Alternative Surface Test Strips

Guanella Pass Road currently consists of several stretches of road with gravel surfaces that 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 is considering several gravel alternative surface options as part of the Guanella Pass Road Improvement Project in an effort to provide a low-maintenance, durable roadway that retains its current rustic character.

As part of the continuing effort to address public concerns regarding the Guanella Pass Road Improvement Project, 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 gravel alternative surface types being considered for use on most of the existing gravel portions of the road. The five gravel alternative surface types demonstrated were a PennzSuppress D/magnesium chloride combination, macadam, Road Oyl, Perma-Zyme, and recycled asphalt. In addition to the five gravel alternatives, an asphalt with chip seal test strip was constructed. 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 may have.

One hundred and one comment sheets were received during the official test strip survey period, which ended on October 15, 2001. Respondents indicated their surface type preferences in several ways: some ranked each surface from one to six, with one being the most preferred surface; some indicated only one preferred surface; some marked several equally preferred choices; and others gave no preference at all. A review of all test strip comment sheets submitted indicated 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 apiece.

## 6. New Considerations

The FHWA has investigated several measures to reduce the effects of the project on surrounding communities. Two measures that will reduce the impacts of construction hauling on the towns of Grant and Georgetown are the use of material source sites within the project area and the creation of a construction traffic bypass bridge. The use of material source sites within the project corridor at the Geneva Basin Ski Area and on FS land near Duck Lake will reduce the amount of construction material that must be hauled through the towns of Grant and Georgetown. A permanent bypass bridge over Clear Creek on 7<sup>th</sup> Street from Brownell Street to Argentine Street in Georgetown will direct construction traffic away from residential areas and will reduce the number of bridge crossings by construction traffic to one. This bridge will continue to be used following project completion to facilitate traffic flow in Georgetown.

In addition to building the 7<sup>th</sup> Street bridge, after construction the FHWA will mill and resurface Argentine and Brownell Streets while shifting the road one roadway width to the west into a previously disturbed area from 15<sup>th</sup> Street to 11<sup>th</sup> Street. This will repair any damages made to the streets during hauling activities and will relocate the streets to match the existing right of way boundaries. For a more detailed description of impact minimization efforts for the proposed project, refer to **Chapter III.B.6i: Reducing Construction Impacts**.

**C. PURPOSE OF AND NEED FOR THE PROJECT**

The purpose of the Guanella Pass Road improvement project 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 following sections describe the need for improvements to Guanella Pass Road. The need for improvements is based on current and future traffic demand, roadway deficiencies, safety concerns, environmental problems, and other issues raised by the cooperating agencies. The needs are separated into three categories: transportation, environmental, and maintenance.

**1. Transportation Needs**

**1a. Increased Traffic Volumes**

Traffic volumes on Guanella Pass Road have increased over the last several years and this trend is expected to continue. The rapid population growth in the front range area and increased per capita recreation activity contribute to the traffic growth on Guanella Pass Road. According to the state demographer, the population of the Denver metropolitan area is expected to grow between 35 and 40 percent by the year 2025 (over the year 2000 population). Because Guanella Pass Road is approximately 60 kilometers (35 miles) from the Denver metropolitan area, the roadway will continue to receive recreational traffic whether or not it is improved. Table I-1 shows the year 1995 and year 2025 (projected) No-Action (no improvement) weekend seasonal average daily traffic (SADT) for the peak season from June-September, as well as the annual average daily traffic (AADT) at four locations along the road. The year 2015 traffic volumes used in the DEIS and SDEIS were updated using new data to generate year 2025 traffic volumes for the 20-year forecast from anticipated date of construction.

*Table I-1: Guanella Pass Road Traffic Volumes*

Count Location	Weekend SADT		AADT	
	1995 Volume	2025 Projected No-Action Volume	1995 Volume	2025 Projected No-Action Volume
Just North of Grant	730	1,140	220	340
South of Guanella Pass (Near Duck Lake)	340	530	100	160
Just North of Guanella Pass	690	1,080	160	240
2 kilometers (1.2 miles) South of Georgetown	1,100	1,720	330	510

*Source: Guanella Pass Road Traffic Study Traffic Volume Projections, MK Centennial, September 2002.*

Without structural improvements as proposed in the build alternatives, the future traffic volumes shown in Table I-1 will result in an increased rate of road surface deterioration.

### 1b. Inadequate Surface Condition

Three sections of Guanella Pass Road are currently paved or are chip sealed (tar and gravel). The first section begins at Grant, is approximately 0.8 kilometers (0.5 miles) long, and is chip sealed. The second section is located around Geneva Park, is 8.7 kilometers (5.4 miles) long, and is paved. The third section begins at the Lower Cabin Creek Reservoir and continues to Georgetown. This section is 8.8 kilometers (5.5 miles) long and is paved. The remainder of the road has a dirt/gravel surface.

The existing roadway surface is not strong enough to withstand current traffic volume loads. Since the existing roadway does not include paved shoulders, substantial raveling (break up and cracking) of the pavement edge occurs. The current deteriorated pavement condition is illustrated in Figure I-3. The problems on the gravel-surfaced portions include dust, washboarding, pot-holing, rutting, mud, and loss of surface material (Figure I-4).



*Figure I-3  
Distressed Pavement Conditions*

The proposed improvements to the roadway and shoulders on all or part of the road will reduce both the rate of deterioration and maintenance costs.



*Figure I-4  
Pot-holes and Ruts on a Gravel Section*

### 1c. Safety

Forty-four accidents have been reported on Guanella Pass Road since 1991, as shown in Table I-2.

As with many rural roadways, not all accidents that occur on Guanella Pass Road are reported. Figure I-5 shows the approximate locations of the reported accidents between the years 1991 and 2001. As shown in the figure, accidents have occurred throughout the project corridor.

The majority of the reported accidents involved vehicles that rolled over after leaving the roadway. Steep terrain and the lack of guardrail contributes to the high potential for rollovers. Roadway conditions including lack of pavement markings also contribute to the potential for accidents.

**Table I-2: Accidents Reported on Guanella Pass Road**

Year	Number of Accidents
1991	2
1992	4
1993	5
1994	2
1995	5
1996	3
1997	5 (one fatal)
1998	2
1999	7
2000	6
2001	3

Accident rates on Guanella Pass Road are notably higher than the accident rates on similar hard-surface recreational roads. Information available shows that the accident rates occurring on Guanella Pass Road are higher than two other paved mountain roads. These paved recreational roads are State Highway 133 south of Carbondale (McClure Pass) and State Highway 149 south of Spring Creek Pass. Table I-3 shows the relative accident rates.

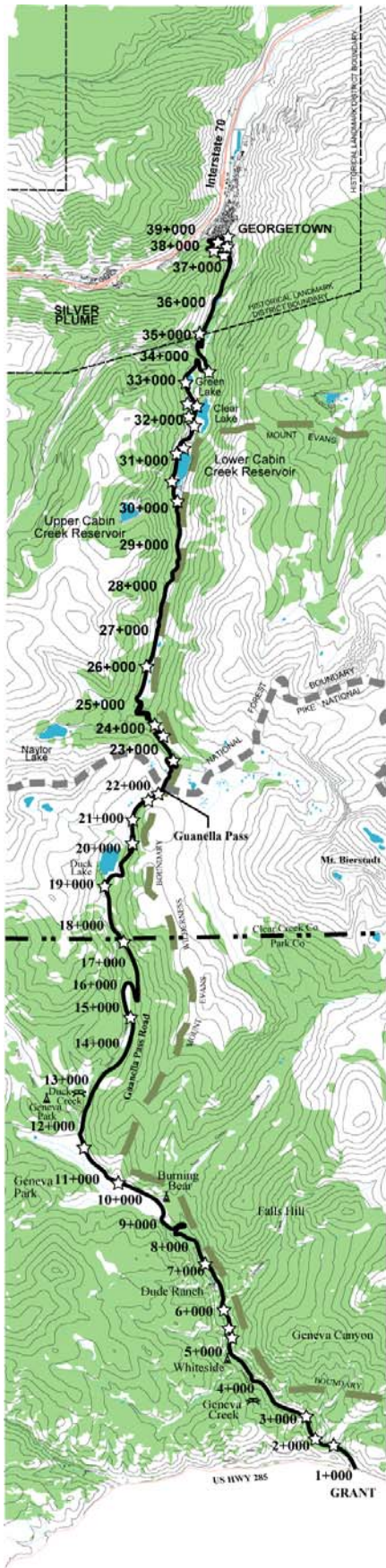
**Table I-3: Comparison of Annual Accident Rates  
(Per Million Vehicle-Miles) on Similar Roadways**

Roadway	Year					
	1995	1996	1997	1998	1999	Average
Guanella Pass Road	3.19	1.89	3.10	1.22	4.21	2.72
State Highway 133	0.49	0.97	0.45	0.82	1.23	0.79
State Highway 149	1.73	0.86	1.11	2.01	2.70	1.68
Accident rate = (#Accidents x 10 <sup>6</sup> ) / (length x 365 x ADT)						

The accident potential on Guanella Pass Road is high due to the following safety deficiencies:

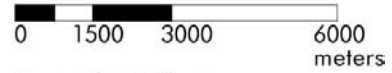
- The existing roadway was not built to a consistent standard and there are many abrupt, sharp horizontal curves that limit sight distance.
- The existing roadway closely follows the irregularities of the surrounding terrain, resulting in numerous vertical dips, steep sections, and sharp crests, all of which restrict sight distance and create operational problems.
- The width of the roadway is inconsistent, varying between 5.5 and 7.2 meters (18 and 24 feet).





Legend

☆ Accident Location



Approximate Scale  
1: 120,000  
1" = 10,000'

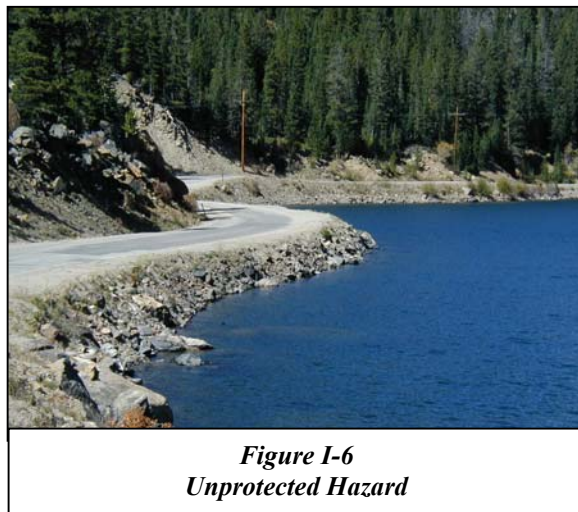
Contour Interval  
12 meters (40 feet)

**Figure I-5**  
**Accident Locations on**  
**Guanella Pass Road**  
**1991-2001**

- The switchbacks are very sharp and narrow. Larger vehicles use the entire roadway to negotiate a turn around these switchbacks, often blocking the path of oncoming traffic.
- The narrow roadway width requires vehicles of all sizes to encroach on the oncoming lane.
- Inconsistent geometries result in a roadway that does not meet driver expectancy.
- Three very short sections of the existing road provide guardrail protection, but much more is warranted to protect drivers from steep drop-offs and roadside hazards (Figure I-6).

The hazards created by these safety deficiencies will become an increasing problem as traffic volumes increase.

To improve safety, the roadway design needs to be corrected in accordance with established guidelines that call for increased sight distance, a consistent width, a consistent design speed, and the inclusion of guardrail where severe hazards occur.



#### **1d. Local Access**

Guanella Pass Road functions as a rural local roadway, primarily providing access to adjacent land and supporting travel over relatively short distances. The roadway provides access to the NF Lands and FS recreation facilities, the Cabin Creek Power Plant owned by Xcel Energy, several residences, and one dude ranch. In addition, three forest development roads and one county road connect to Guanella Pass Road.

Guanella Pass Road provides primary access to the Pike and Arapaho NFs. The area is used for sightseeing, hiking, hunting, fishing, camping, wildlife viewing, cross country skiing, snowmobiling, bicycling, and other recreational activities. Guanella Pass Road serves numerous trailheads, which include the Silver Dollar Lake, Guanella Pass, Abyss Lake, and Threemile Creek trails. These trailheads provide access to the Mount Evans Wilderness and other remote areas.

Part of the need for the proposed improvements to the road is to both accommodate and control access to the recreational uses the FS provides. Improvements to the roadway provide an opportunity for the FS to better manage the locations used for parking by anglers and picnickers; limit the number of vehicles parked in a specific area; eliminate off-road camping, parking, and travel in areas where it is not desired; and install interpretive pullouts and signs where appropriate. Representatives of local businesses and organizations, officials of nearby towns, and Park and Clear Creek County residents make up the Guanella Pass Scenic Byway Committee (SBC). The SBC has prepared a Corridor Management Strategy (CMS) for the Guanella Pass Scenic and Historic Byway. This strategy provides a vision for the future management of the byway corridor. It also provides detailed descriptions for management efforts to rehabilitate and/or upgrade FS recreation facilities including campgrounds, picnic areas, trailheads, parking areas, and interpretive stations. Guanella Pass Road is maintained for passenger vehicle use year-round in Clear Creek County. The road in Park County, however, is not snow plowed on a year-round basis. Through travel from Georgetown to Grant is not always possible during the winter months.

Guanella Pass Road is not meant to be a commercial link or through route between Interstate 70 and US Highway 285, nor is it the purpose of the proposed improvements to make it one. The primary purpose of the road is, and will continue to be, to provide recreational access to the forests and access to the developments listed above.

A reduction in travel time between Grant and Georgetown results if Guanella Pass Road is paved. An exception to this reduction is for heavy trucks. The geometric characteristics of the proposed improvements to Guanella Pass Road still include switchback curves and steep grades (nine percent or more). While the improvements make the existing curves and grades more easily negotiable for the average vehicle, larger vehicles (heavy trucks) will continue to find it slow-going to negotiate the curves and steep grades.

## **2. Environmental Needs**

### **2a. Sensitive Environmental Setting**

The Guanella Pass Road corridor passes through an environment that is sensitive to the presence of residents and visitors alike. The corridor consists of alpine and montane forests with meadows and wetlands. It passes through rock and talus slopes, and areas rich in wildlife. Parts of the corridor serve as a winter range for elk, deer, and bighorn sheep and home to many other smaller mammals and birds. The scenic views are readily visible from Guanella Pass Road and enjoyed by the area residents and visitors.

The sensitivity of the area to impacts created by the project must be considered. As part of this project, an extensive information gathering effort was aimed at identifying key environmental issues to receive special attention during the course of project development. The process included numerous agency meetings and public meetings, surveys, and interviews. This effort yielded six key issues: the social environment, water resources, visual quality/character of the area, recreational resources, wildlife resources, and construction impacts. These issues were felt to be of utmost importance with respect to avoiding, minimizing, and mitigating impacts.

## 2b. Soil Erosion and Sedimentation

Many sections of the existing road are adjacent to or located very close to creeks or areas where substantial runoff occurs (Figure I-7). During high runoff years, roadside creeks overflow their banks, undermining the roadbed and damaging the road surface. Other sections of the road, particularly along South Clear Creek, are at stream level or slightly below. Fill slopes from the road encroach into the creek in several locations. Numerous locations experience substantial runoff from adjacent hillsides and nearby springs. These conditions allow dirt particles from the roadway and unvegetated slopes to be carried into nearby streams.



*Figure I-7  
Stream Encroachment*

As part of the proposed improvements, drainage facilities (ditches and culverts) along the road will be improved to keep roadway surface runoff from directly entering the creeks. In areas where sedimentation from the road is a concern, the proposed improvements provide sediment traps where needed and, where possible, sedimentation buffers between the road and nearby creeks. In addition, revegetation of barren slopes will reduce the amount of available dirt particles contributing to siltation.



*Figure I-8  
Steep Cut Slopes and Heavy Rockfall*

The steep mountainous terrain, the original methods of road building, and current maintenance practices have created numerous steep and unvegetated cut slopes along the road. Large rocks embedded in these cut slopes occasionally erode onto the roadway. Boulders and rockfall debris on the roadway pose a potential threat to driver safety until they are detected and removed by county maintenance crews (see Figure I-8). Wider ditches could be provided in appropriate locations along the road to catch these rocks before they roll into the roadway.

Soil erosion also results in the loss of important topsoil and destruction of mature vegetation. As shown in Figure I-8, many of the cut slopes are too steep and unstable to establish or retain vegetation. These unvegetated areas are highly visible and detract from the aesthetic value of this Scenic and Historic Byway.

### 3. Maintenance Needs

#### 3a. Roadway Maintenance Cost

Park and Clear Creek Counties have expended a great deal of time and money trying to maintain Guanella Pass Road. Even with their efforts, the counties have been unable to maintain the roadway to acceptable safety and driving standards. The counties agree that additional maintenance of the roadway is desirable, but budget restrictions prohibit this.

As traffic volumes increase and the roadway continues to age, the necessary maintenance will require the counties to spend an increased amount of time and money. However, the counties anticipate that so long as they lack monetary resources the increased maintenance cannot occur. As a result, this will accelerate the deterioration of the road. Lack of maintenance will also contribute to further environmental degradation of the area through dust, erosion, and sedimentation. Safety is compromised, and the recreational driving experience is diminished by the dust, rutting, washboarding, and potholes. Additional detailed discussion of roadway maintenance needs and costs is presented in **Chapter III.C.11: Maintenance Costs**.

An improved roadway requires less time and money to maintain. Better maintenance results in a safer road, an enhanced recreational driving experience, and less dust, erosion, and sedimentation.

#### 3b. Drainage

Existing stream crossing culverts are generally undersized, constricting stream flow and fish passage. Roadway drainage-ditch culverts are inadequately spaced, resulting in concentrated flow along the roadway and subsequent erosion. An example of the inadequate drainage is shown in Figure I-9. This drain culvert has been deformed due to the erosion of the roadway surface, and this deformation has prevented proper runoff drainage. These inadequacies often cause drainage to run on top of the roadway surface, causing erosion and road surface distress. In winter, this results in ice flows forming across the road in several areas creating added safety issues and increased accident potential.



*Figure I-9  
Inadequate drainage*

### 3c. Untreated Roadway Surface Conditions

The 19.7 kilometers (12.2 miles) of roadway that are dirt/gravel surfaced cause substantial dust problems, especially during high traffic periods. Year-round homes and summer cottages are affected, as well as creeks, plants, wildlife, and campgrounds adjacent to the road. The enjoyment of driving the road suffers when preceding vehicles fill the air with dust. Dust also contributes to local degradation of scenic vistas and air quality in the Mt. Evans Wilderness Area. Clear Creek County has applied magnesium chloride ( $MgCl_2$ ), a partially effective dust suppressant, for dust control on the dirt/gravel portions of the road within the county.  $MgCl_2$  helps control dust particulate scattering and sedimentation, but it is expensive and the effects only last for one to two years. Dust is worse on the Park County portion of the route because Park County does not have the budget to apply  $MgCl_2$ .

The traffic and maintenance activities on Guanella Pass Road casts off much of the loose gravel surface into adjacent roadside areas that include creeks and streams, wetlands, riparian areas, and ditches (Figure I-10). The gravel that is cast off the road chokes sensitive habitats and fills in drainage ditches. As the ditches become filled, the drainage from the road becomes less manageable and results in increased runoff across the road. The use of a hardened surface in critical areas would substantially reduce the amount of sediment that ends up in ditches and environmentally sensitive areas. Neither county has the budget to keep the existing surface well-graded and the existing ditches clear of surface materials.



*Figure I-10*  
*Spreading and erosion of road materials into sensitive habitats*

## D. PROJECT OBJECTIVES

The objectives of the project are based on the needs identified in the previous section of this chapter. The project alternatives (described in detail in **Chapter II: Alternatives**) are compared against the project objectives in **Chapter III.E: Comparison of the Preferred Alternative and the DEIS/SDEIS Alternatives to the Project Objectives**. The eight project objectives are outlined in Table I-4. Each project objective carries equal weight when considered in the alternatives analysis.

*Table I-4  
Objectives of the Guanella Pass Road Improvement Project*

<b>Transportation</b>	
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.
<b>Maintenance</b>	
IV.	Reduce the anticipated maintenance costs to the counties (and town**) maintaining the road.
V.	Repair roadway drainage problems.
<b>Environmental</b>	
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.
* Year 2015 traffic volumes (used in the DEIS) have been revised to year 2025 traffic volumes to show the 20-year traffic projections, based on the estimated project completion date.	
** Added after issuance of DEIS.	
*** Key Issues for this project were identified as: Social Environment, Water Resources, Visual Quality, Recreational Resources, Plants and Animals, and Construction Impacts.	

## II. Alternatives

### A. INTRODUCTION

This chapter of the Guanella Pass Road FEIS presents the alternatives evaluated during the EIS process for this project. The alternatives in the FEIS are carried forward from the *June 1999 Guanella Pass Road Draft Environmental Impact Statement (DEIS)* and the *November 2000 Guanella Pass Road Supplemental Draft Environmental Impact Statement (SDEIS)*.

The alternatives being considered are:

- Alternative 1: No Action Alternative
- Alternative 2: Reconstruct and Pave
- Alternative 3: Reconstruct to Existing Surface Type
- Alternative 4: Partially Reconstruct and Pave
- Alternative 5: Partially Reconstruct and Pave/Partially Rehabilitate
- Alternative 6: The Preferred Alternative

The build alternatives (Alternatives 2-6) are described in Section B and are those that were identified to be reasonable alternatives to address the purpose and need of the project, and to some degree respond to the project objectives stated in **Chapter I: Purpose and Need**. The Preferred Alternative is Alternative 6. Section C provides a comparison of the six alternatives described in Section B. Section D describes options that could be implemented in any of the build alternatives discussed in Section B (Alternatives 2-6). Section E discusses other alternatives that were considered but were determined to not be reasonable alternatives. As a result, they were eliminated from any further evaluation. Finally, Section F discusses issues for the final design.

### B. DESCRIPTION OF ALTERNATIVES

#### 1. Alternative 1 – No Action Alternative

Under Alternative 1, construction activities will not occur and forest highway funds would not be spent for improvements to Guanella Pass Road. Maintenance will continue to be funded and performed by the counties. Alternative 1 does not adequately address the project objectives stated in **Chapter I: Purpose and Need**. Alternative 1 neither impacts nor improves the quality of the environmental resources in the area. Although Alternative 1 addresses Project Objective VIII, it neither diminishes nor enhances the rural and scenic character in the corridor. There will be no construction costs.

Traffic volumes along the corridor are projected to increase above present levels by approximately 1.5 percent per year (a 56 percent increase over a 30-year period from the years 1995 to 2025) under Alternative 1. As traffic volumes increase in response to regional population growth and increased recreational use of Guanella Pass Road and the surrounding NF lands (*Guanella Pass Road Traffic Study, Traffic Volume Projections* (MK Centennial 1995)) the



existing problems described in **Chapter I: Purpose and Need** will become worse. This includes dust and erosion impacts, deterioration of the road surface, operational and safety problems, and the difficulty and cost of proper roadway maintenance. The road would likely deteriorate to the point that the maintaining agencies would either have to perform significant reconstruction work when they have the funding, time, and personnel available to perform such work, or the maintaining agencies would have to restrict road access to avoid liability issues.

## 2. Alternative 2 (Figure II-1)

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

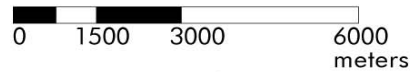
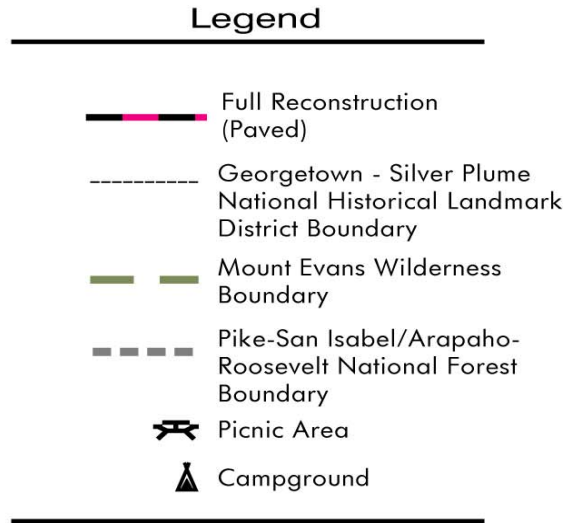
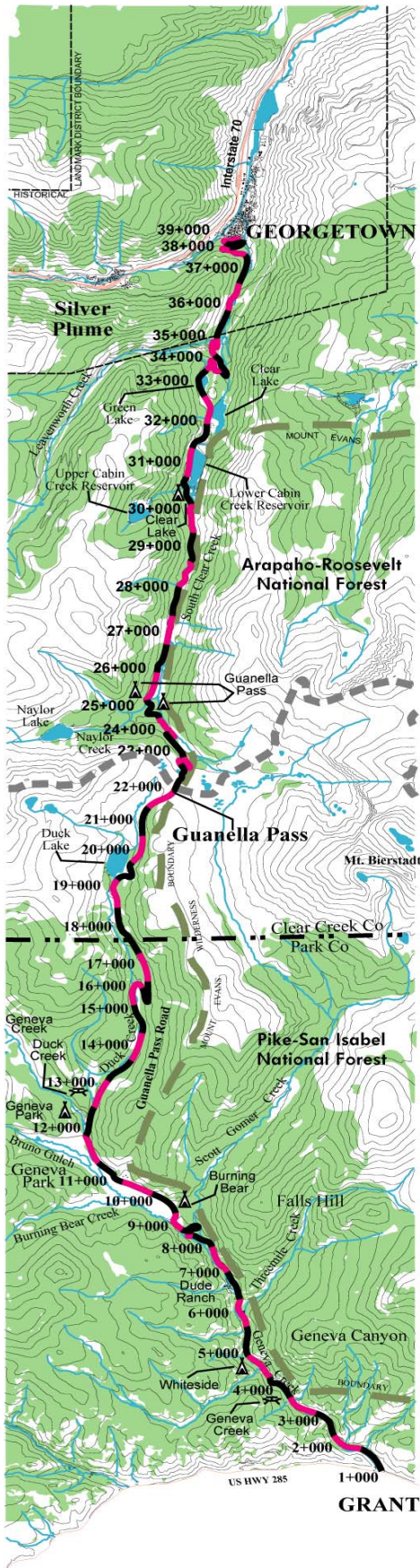
Alternative 2 addresses Project Objectives I, II, III, IV, V, VI, and VII, and partially addresses Project Objective VIII (see **Chapter III.E: Comparison of Alternatives to the Project Objectives**). Throughout the entire route, the horizontal and vertical alignment will be corrected to substantially improve traveler safety and operational conditions; drainage problems are addressed and corrected; roadside parking and access are upgraded and controlled; signs, pavement striping, and guardrail are upgraded to meet current practice; and existing and new slopes are stabilized and revegetated. Guardrail will be placed along 15.7 kilometers (9.8 miles) of the road. This alternative will cost approximately \$46.1 million to construct. See **Chapter III.B.6b: Construction Cost** for more information on this topic.

Traffic volumes are expected to increase over the No Action Alternative projected increases as a result of the construction of Alternative 2. The year 2025 increases are estimated to be between 40 percent and 80 percent above the year 2025 No Action Alternative traffic volumes at the summit. See **Chapter III.B.1b: Traffic Volumes** for more information on projected traffic volume increases.

## 3. Alternative 3 (Figure II-2)

Guanella Pass Road will be reconstructed (full reconstruction) and resurfaced to its existing surface type. Those portions of Guanella Pass Road that are currently paved would be resurfaced with an asphalt surface and those portions of the road that are currently dirt/gravel would be resurfaced with a gravel or stabilized gravel surface. The roadway alignment generally follows the existing alignment, with the same horizontal and vertical improvements as in Alternative 2. The road will be reconstructed to a consistent width of 7.2 meters (24 feet) to include a 3-meter (10 feet) lane and a 0.6-meter (2 feet) shoulder in each direction. Drainage, structural, safety, slope stability, vegetation, culvert, and small stream crossing improvements are included. Under Alternative 3, the entire road undergoes full reconstruction with 52 percent gravel/stabilized gravel surface and 48 percent paved. This alternative will cost approximately \$44.6 million to construct. See **Chapter III.B.6b: Construction Cost** for more information on this topic.

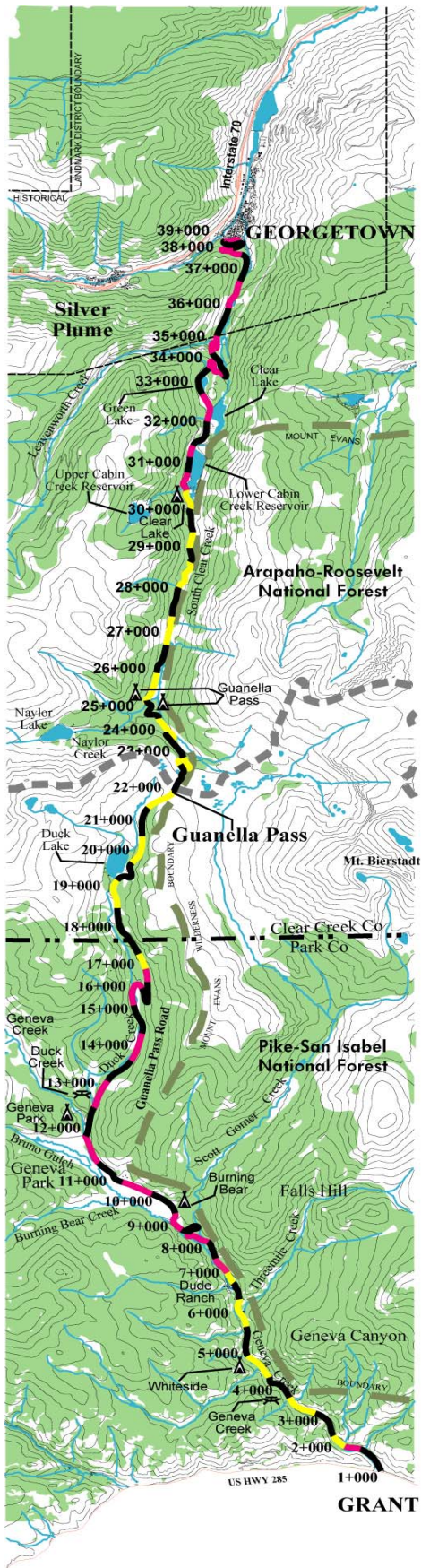
Alternative 3 addresses Project Objectives I, II, III, V, and VI, and partially addresses Project Objectives IV, VII, and VIII. Alignment, safety, drainage, access control, slope stability, and revegetation improvements would be constructed along the entire length of the roadway. Guardrail will be placed along 15.7 kilometers (9.8 miles) of the road. Traffic volumes on the









Approximate Scale  
 1 : 120,000  
 1" = 10,000'

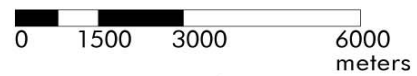
Contour Interval  
 12 meters (40 feet)

*Figure II-1  
 Alternative 2*



### Legend

-  Full Reconstruction (Paved)
-  Full Reconstruction (Gravel w/Dust Palliative)
-  Georgetown - Silver Plume National Historical Landmark District Boundary
-  Pike-San Isabel/Arapaho-Roosevelt National Forest Boundary
-  Picnic Area
-  Campground



Approximate Scale  
 1: 120,000  
 1" = 10,000'

Contour Interval  
 12 meters (40 feet)

**Figure II-2**  
**Alternative 3**

roadway are expected to increase over the No Action Alternative projected increases as a result of the construction of Alternative 3. The year 2025 increases are estimated to be approximately 35 percent above the year 2025 No Action Alternative traffic volumes at the summit.

#### **4. Alternative 4 (Figure II-3)**

Four sections of Guanella Pass Road will be reconstructed (full reconstruction) and paved with asphalt to the same standard as Alternative 2. The four improvement segments are shown in Figure II-3. The four sections proposed for improvement in this alternative are in the greatest need of reconstruction. They include the Falls Hill area, the area along Duck Creek over the summit to Lower Cabin Creek Reservoir, the Green Lake area, and the Georgetown terminus.

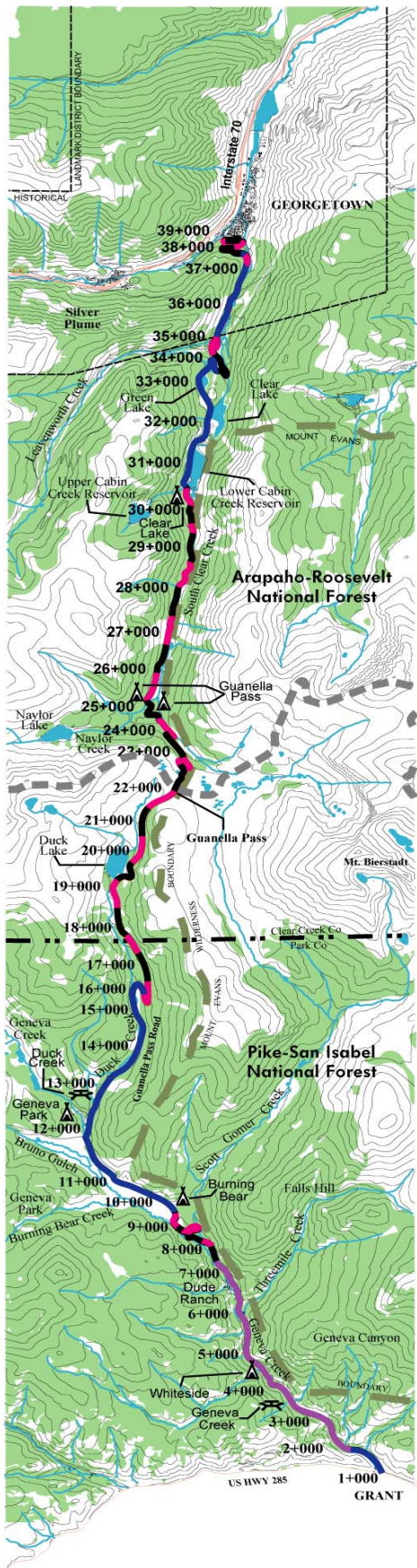
The sections identified as having the greatest need of reconstruction include one or more of the following deficiencies:

- numerous substandard or unsafe geometric features
- insufficient width for design vehicles to safely pass in opposite directions
- limited sight distance
- excessive maintenance costs
- severe environmental degradation
- severe slope stability problems
- insufficient ditch width and drainage problems
- hazardous and steep roadside conditions
- steep roadway gradients

Drainage, structural, safety, slope stability, vegetation, culvert, and small stream crossing improvements are included along the four sections. Guardrail will be placed along 10.3 kilometers (6.4 miles) of the road. The remainder of the road will be left unchanged. Under Alternative 4, 50 percent of the road undergoes full reconstruction and is paved, 36 percent is left unchanged with a paved surface, and 14 percent is left unchanged with a gravel/stabilized gravel surface. This alternative will cost approximately \$29.2 million to construct. See **Chapter III.B.6b: Construction Cost** for more information on this topic.

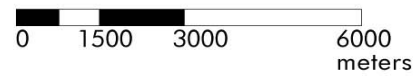
Alternative 4 partially addresses Project Objectives I, II, III, IV, V, VI, VII, and VIII. Each project objective is only partially met because the intent of Alternative 4 is to reconstruct only areas most deficient and in the greatest need. The sections not reconstructed under Alternative 4 do not meet most of the project objectives. However, they are not considered to be nearly as deficient as the sections of the route that are reconstructed.

Traffic volume increases over the No Action Alternative projected increases are expected to result from the construction of Alternative 4. The year 2025 increases are estimated to be between 40 percent and 80 percent of the year 2025 No Action Alternative traffic volumes at the summit. This increase is similar to the increase forecasted for Alternative 2 because approximately 85 percent of the road (including the summit) is paved under Alternative 4.



### Legend

-  Existing-No Action (Gravel)
-  Existing-No Action (Paved)
-  Full Reconstruction (Paved)
-  Georgetown - Silver Plume National Historical Landmark District Boundary
-  Mount Evans Wilderness Boundary
-  Pike-San Isabel/Arapaho-Roosevelt National Forest Boundary
-  Picnic Area
-  Campground



Approximate Scale  
 1: 120,000  
 1" = 10,000'

Contour Interval  
 12 meters (40 feet)

**Figure II-3  
 Alternative 4**

## 5. Alternative 5 (Figure II-4)

Guanella Pass Road will be reconstructed (full reconstruction) and paved in a manner similar to Alternative 4 and the remainder of the road will be rehabilitated. The same four sections of the road that are reconstructed in Alternative 4 would be reconstructed and paved with asphalt in Alternative 5. Drainage, structural, safety, slope stability, vegetation, culvert, and small stream crossing improvements are included in these four sections. Guardrail would be placed along 10.3 kilometers (6.4 miles) of the road. The rehabilitation sections are the same as those sections left unchanged in Alternative 4. The rehabilitation sections will receive the following improvements: a pavement overlay or gravel/stabilized gravel overlay consistent with the existing surface type, drainage improvements, and revegetation of barren (existing) slopes to the extent possible without changing the existing slope angle. The rehabilitated sections of Guanella Pass Road will match the existing roadway widths. Under Alternative 5, 50 percent of the road undergoes full reconstruction and is paved, 36 percent is rehabilitated with asphalt pavement, and 14 percent is rehabilitated with a gravel/stabilized gravel surface. This alternative will cost approximately \$35.9 million to construct. See **Chapter III.B.6b: Construction Cost** for more information on this topic.

Alternative 5 only partially meets project objectives I, II, IV, VI, VII, and VIII. Because the intent of this alternative is to reconstruct only four sections and rehabilitate the rest of the road, only project objectives III and V (access and drainage) are met completely.

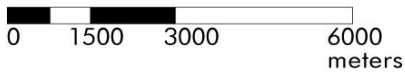
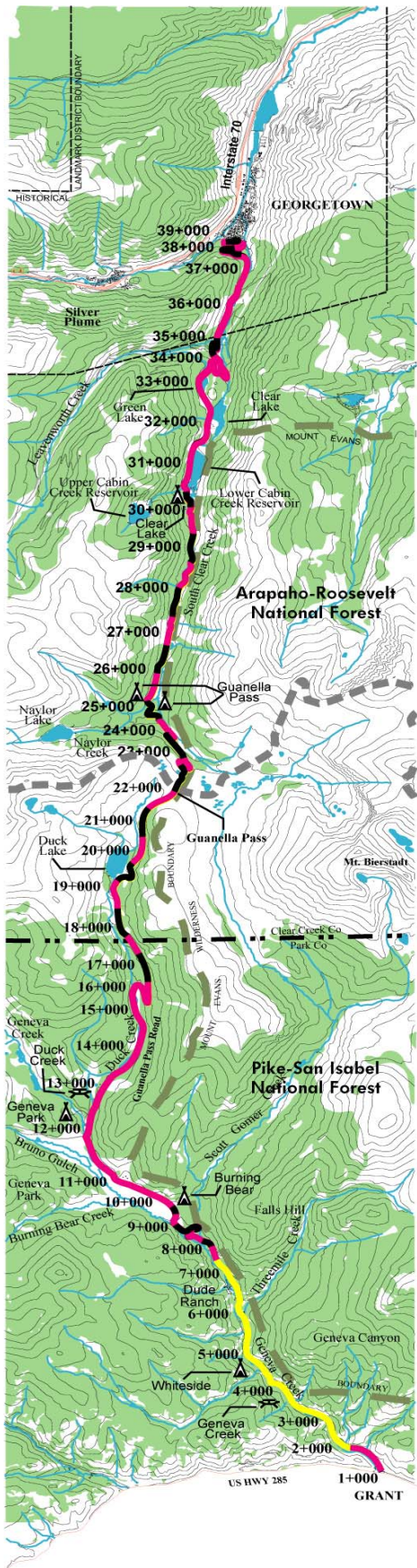
Traffic volume increases over the No Action Alternative projected increases are expected to result from the construction of Alternative 5. The year 2025 increases are estimated to be between 40 percent and 80 percent of the year 2025 No Action Alternative traffic volumes at the summit.

## 6. Alternative 6 – The Preferred Alternative (Figure II-5)

In the SDEIS Alternative 6 was divided into 36 segments. Each segment was defined by a level of construction (rehabilitation, light reconstruction, and full reconstruction), and surface type. Since the release of the SDEIS an alternative surface type has been identified as preferred to gravel on certain existing gravel sections of the road. This resulted in increasing the number of segments from 36 to 38. The locations of these segments are indicated in **Chapter II.D.1: Proposed Improvements by Segment**.

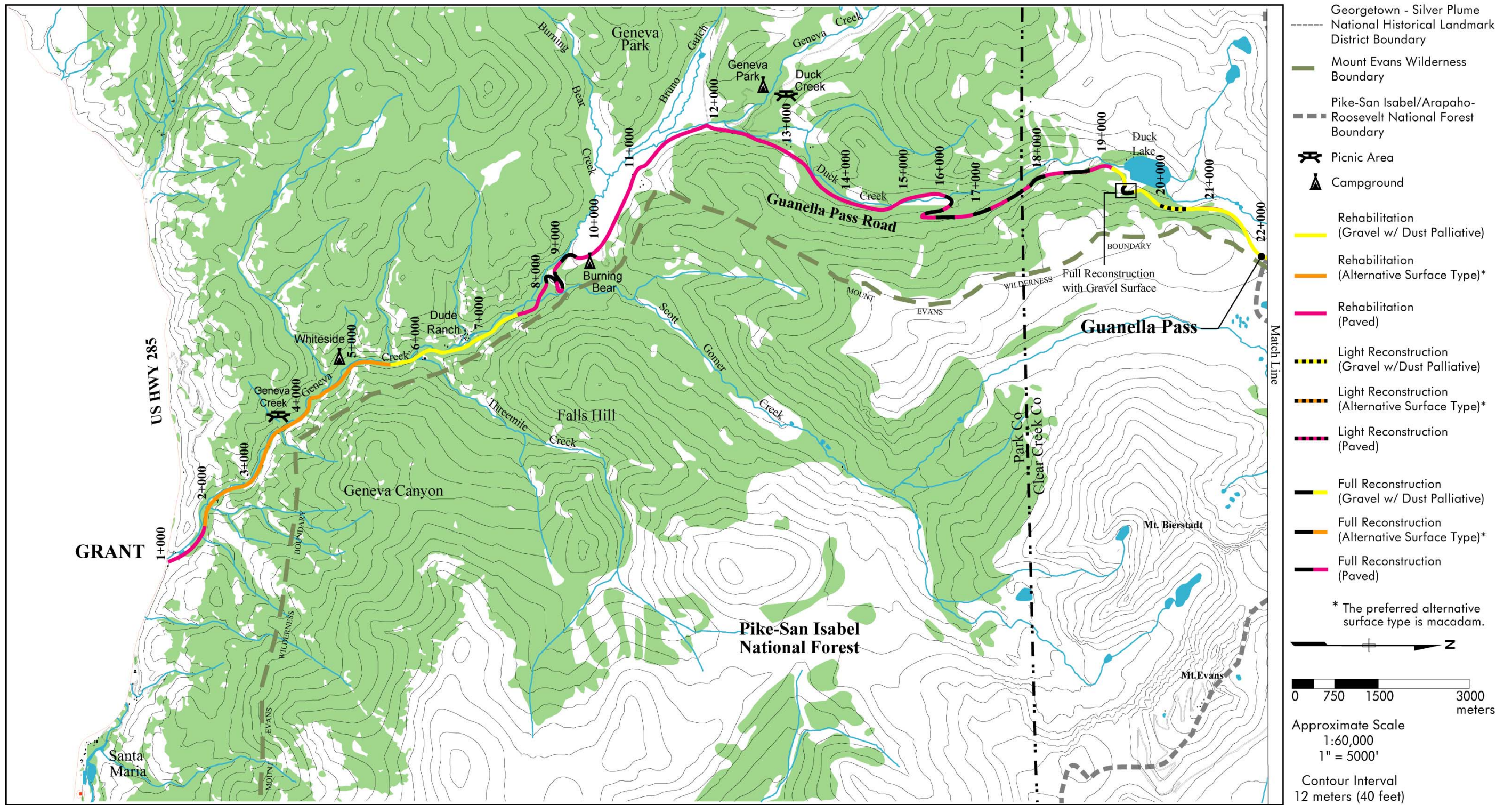
Approximately 63 percent of the roadway improvement will include rehabilitation, 18 percent will include light reconstruction and 19 percent will include full reconstruction. These proposed portions might be slightly modified as the design for the road is further developed. Figure II-5 shows Alternative 6 and the different levels of construction that are proposed. Figure II-6 illustrates the approximate limits of construction for rehabilitation, light reconstruction, and full reconstruction of the roadway (see **Chapter II.D.4e: Typical Cross Sections** for more detail). This alternative will cost approximately \$28.9 million to construct. See **Chapter III.B.6b: Construction Cost** for more information on this topic.

Road surface, safety, drainage, access control, slope stability, and revegetation improvements are proposed for construction along the roadway. Guardrail and/or guardwall (includes stand-alone guardrail, guardrail on Mechanically Stabilized Earth [MSE] walls, and concrete guardwalls) is proposed along 8.6 kilometers (5.3 miles) of the road.



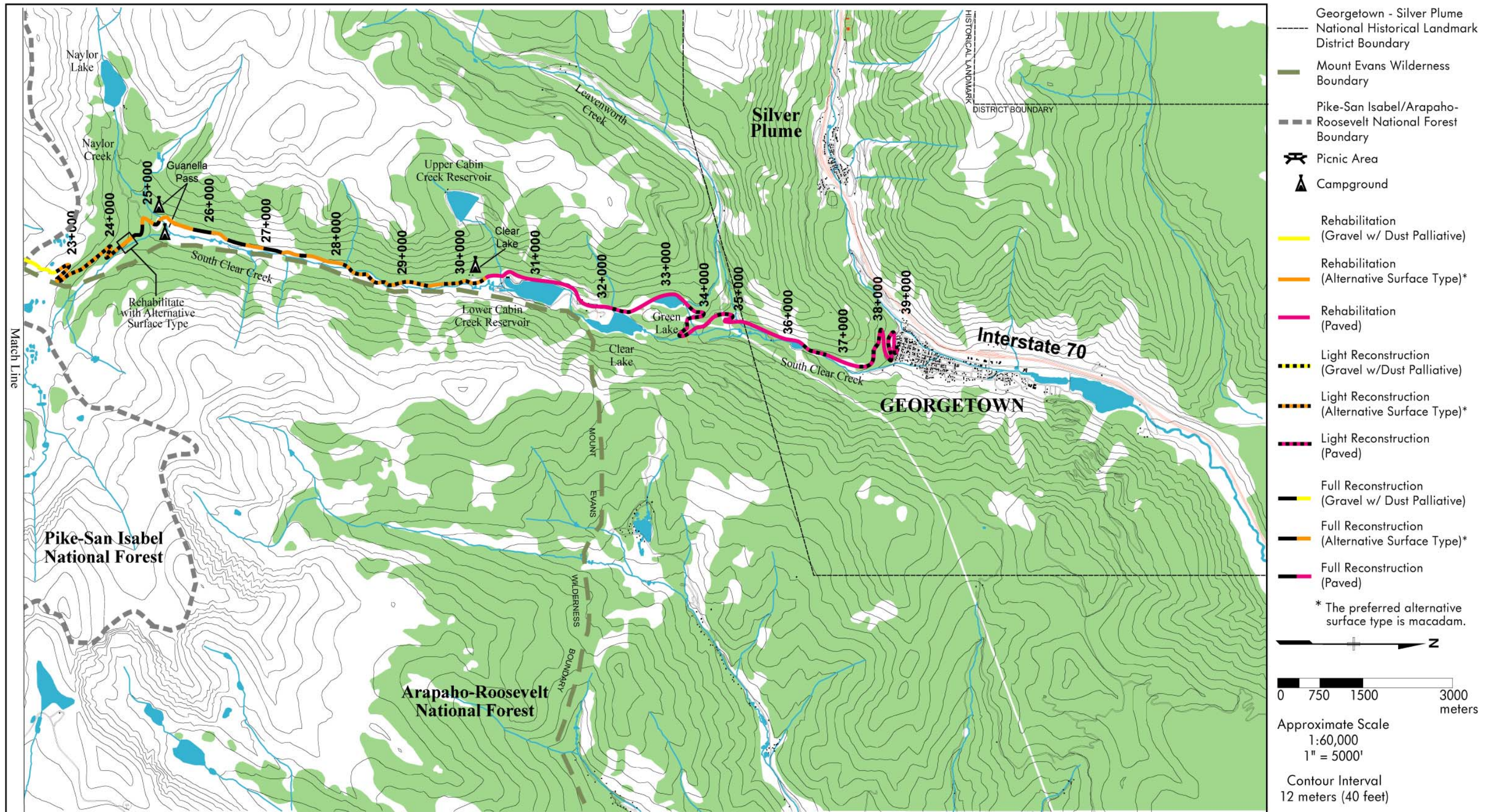
Approximate Scale  
 1: 120,000  
 1" = 10,000'  
 Contour Interval  
 12 meters (40 feet)

**Figure II-4  
 Alternative 5**

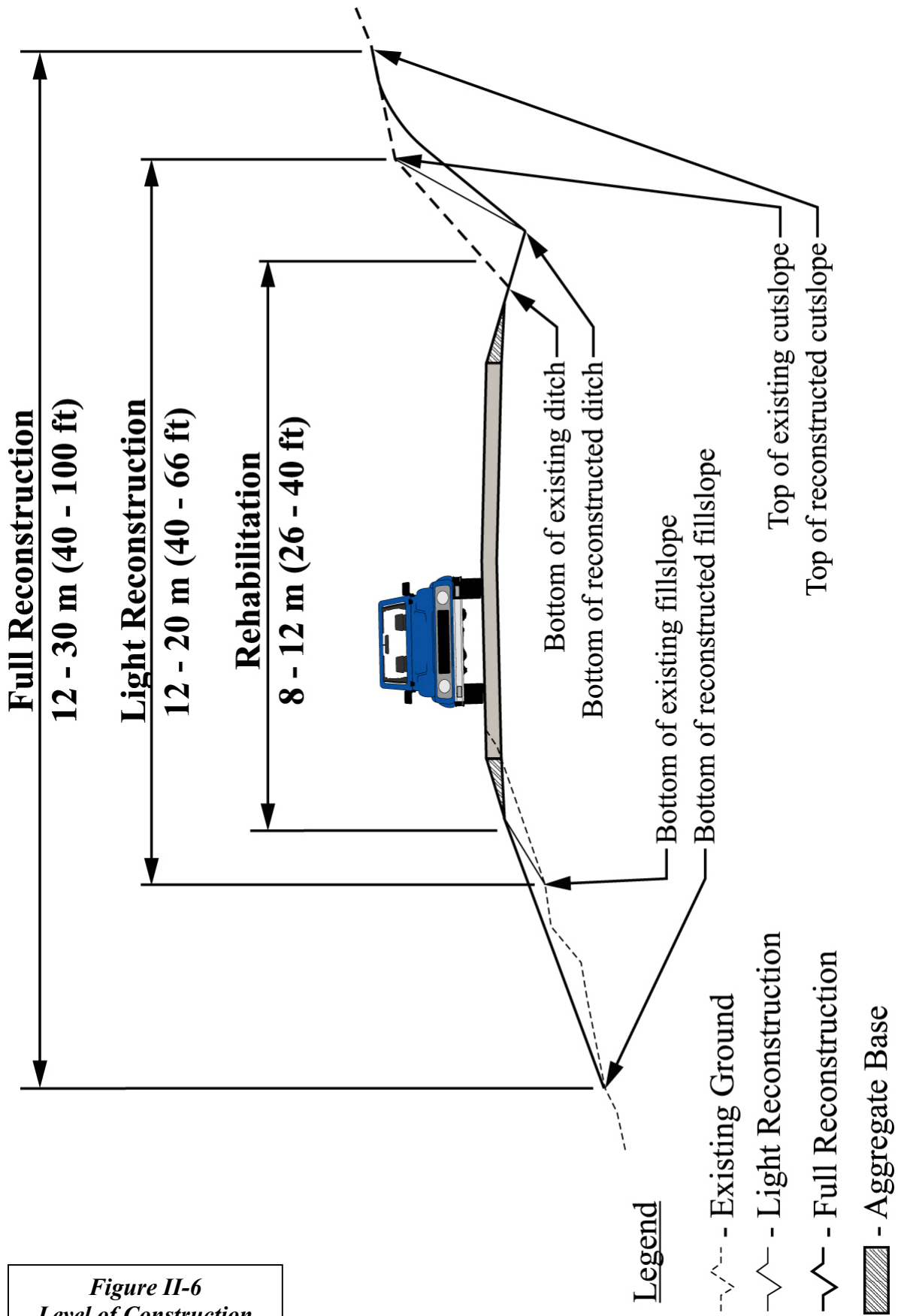


**Figure II-5 Alternative 6  
(The Preferred Alternative)**





**Figure II-5 (cont.) Alternative 6 (The Preferred Alternative)**



Dimensions Shown Are Approximate

*Figure II-6  
Level of Construction*

In Alternative 6 the road is given a new functional classification of a rural local road, as described in **Chapter II.D.4a: Functional Classification**. This classification allows for the design of a roadway containing relatively sharp switchback curvature. This permits Alternative 6 to more closely follow the existing footprint of the road.

Traffic volume increases over the No Action Alternative projected increases are expected to result from the construction of Alternative 6. The traffic increases for Alternative 6 in the year 2025 are estimated to be about 20 percent above the year 2025 No Action Alternative traffic volumes at the summit. Design standards were selected based on AADT. A maximum of 600 vehicles per day (vpd) is allowable for the design standards selected. Alternative 6 traffic projections are not expected to exceed 600 vpd. See **Chapter III.B.1b: Traffic Volumes** for more information on projected traffic volumes.

Based on the information given in **Chapter III.E: Comparison of Alternatives to the Project Objectives**, Alternative 6 addresses Project Objectives I, III, and V, and partially addresses Project Objectives II, IV, VI, VII, and VIII.

Several alternative surface types were proposed to replace existing gravel surfacing for about 30 percent of the route. These surface types are evaluated in this document, and macadam has been selected as preferred. Macadam was identified as the preferred alternative surface type because it best provided the rustic appearance and rough ride that much of the public requested to preserve while at the same time providing a more hardened surface that reduces sediment runoff which is a concern for the FS and the counties. Although the decision on surface type will not be made until publication of the ROD, “macadam” has been identified as the preferred surface type.

In Alternative 6, the roadway will be resurfaced with asphalt with chipseal, and a stabilized gravel of either macadam or gravel with a dust suppressant. In general, the existing paved sections of the road will be resurfaced using asphalt pavement or asphalt pavement with chip seal. The existing gravel sections will be surfaced with either gravel and a dust suppressant or macadam. There is one section that is currently a gravel surface that is proposed to be paved with an asphalt surface. This location is a 3.0 kilometer (1.8 mile) section of road near the Park County and Clear Creek County line (Shelf Road - station 16+140 to 19+140). This section is proposed to be surfaced with asphalt at the request of the maintaining agency (Park County) to reduce costs associated with maintenance of the road.

The decision to use a combination of roadway surfaces is in response to the needs and concerns expressed by the FS, Park County, Clear Creek County, and the Town of Georgetown. These needs and concerns include erosion and sedimentation control, minimizing maintenance efforts and costs, and maintaining a rustic and rural character to the road. Guanella Pass Road was evaluated to determine the best surface type to address the most substantial issues for several sections of the road. Discussions between the FHWA, the FS, Park County, Clear Creek County, and the Town of Georgetown yielded the results shown in Table II-1.

## 6a. Surfacing Options

The local communities and agencies involved have expressed concern over the erosion and sedimentation problems created by the combination of poor drainage with the gravel surface on Guanella Pass Road. Clear Creek County and Park County also feel that the gravel surface is a maintenance cost issue and are searching for an alternative to minimize anticipated costs for road maintenance. Nevertheless, the local communities have expressed a desire for the gravel surface because the look and feel of this surface contributes to the rustic character of the road. Because

**Table II-1**  
**Roadway Surfacing – Alternative 6**

Beginning Station	Length	Surface Type	General Location
1+000	0.77 km (0.48 mi)	Pave with chip-seal	Grant
1+770	3.73 km (2.32 mi)	Alternative Surface Type*	Geneva Canyon
5+500	2.00 km (1.24 mi)	Gravel w/dust suppressant	Geneva Canyon
7+500	11.64 km (7.23 mi)	Pave with chip-seal	Geneva Park (Falls Hill, Shelf Road)
19+140	3.31 km (2.06 mi)	Gravel w/dust suppressant	Guanella Pass
22+450	2.91 km (1.81 mi)	Alternative Surface Type*	Upper Clear Creek Switchbacks
25+360	2.78 km (1.73 mi)	Alternative Surface Type*	Upper South Clear Creek
28+140	1.26 km (0.78 mi)	Alternative Surface Type*	Middle South Clear Creek
29+400	0.82 km (0.51 mi)	Alternative Surface Type*	Lower South Clear Creek
30+220	8.58 km (5.33 mi)	Pave with chip-seal	Cabin Creek
38+800	0.40 km (0.25 mi)	Pave	Georgetown Switchbacks

*\*The preferred alternative surface type is macadam.*

of these conflicting concerns, the FHWA is considering five gravel stabilizing options in addition to gravel. The alternative surface types stabilize the gravel road surface, provide better structural integrity and maintainability than a gravel surface, and provide a more rustic appearance and texture than asphalt pavement. In addition, the FHWA is considering a chip seal surface over asphalt to give the paved sections of the road a more rustic appearance. While alternative surface types are discussed under Alternative 6, various elements of the different build alternatives, including the alternative surface types, could be combined in the ROD.

The optional surface types and/or treatments analyzed include:

1. Magnesium Chloride/PennzSuppress D
2. Macadam Construction
3. Road Oyl
4. Permazyme
5. Recycled Asphalt
6. Chip Seal over Asphalt

As part of the continuing effort to address public concerns regarding the Guanella Pass Road Improvement project, the FHWA constructed road surfacing test strips on Guanella Pass Road south of the Cabin Creek hydroelectric power plant during the summer of 2001. The purpose of the test strips was to provide a demonstration of the five different gravel alternative surface types being considered for use on most of the existing gravel portions of the road. In addition to the five gravel alternatives, an asphalt with chip seal test strip was installed, as this surface is being considered for use on the paved sections of the road.

Each of the optional surface types has a longer structural life than an untreated gravel road surface and requires less maintenance than a gravel road surface. Each optional surface type is described below based on appearance, surface characteristics, dust suppression, and scattering characteristics. Table II-2 compares roadway surfacing alternatives. A full analysis of the maintenance costs and life expectancy is included in **Chapter III.C.11: Maintenance Costs**.

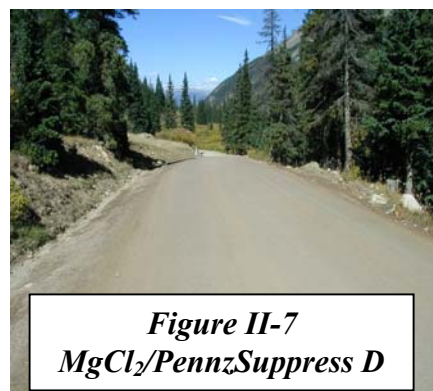
**(i) Magnesium Chloride/PennzSuppress D**

MgCl<sub>2</sub> and PennzSuppress D are binding agents used for stabilizing gravel. The products can be combined with water and sprayed into a gravel surface. The product emulsion is mixed with the gravel and compacted onto a gravel base. The mixture binds the soil and gravel particles to hold the road together.

**Table II-2  
Roadway Surfacing Alternatives**

Surface Type	Construction Costs	Expected Life	Requires Striping?	Maintenance Schedule	Maintenance Effort	Pros	Cons
Gravel	Low	1-2 years	No	2-3 times a year	Replace gravel as it is lost, regrade	Inexpensive construction	Dusty, very high maintenance from beginning
Gravel with Magnesium Chloride (MgCl <sub>2</sub> )	Low	1-2 years	No	2-3 times a year	Replace gravel, regrade, reapply MgCl <sub>2</sub>	Inexpensive, less dusty than plain gravel	Very high maintenance from the beginning; remains "soggy" long after precipitation.
Macadam	Medium	10 years	Yes	Every 2-3 years	Fill potholes, restripe	Easy construction, lower cost with reasonable design life, low maintenance	Not as durable as asphalt
Road Oyl	Low	2-5 Years	No	Yearly to twice a year	Fill potholes and cracks	Provides a smoother surface compared to gravel.	High maintenance, not as durable as asphalt
Permazyme	Low	2-5 years	No	Yearly to twice a year	Fill potholes and cracks	Provides a smoother surface compared to plain gravel.	High maintenance, not as durable as asphalt
Recycled Asphalt Pavement	Low	2-5 years	No	Yearly to twice a year	Replace recycled asphalt, regrade	Inexpensive, holds together better than gravel	High maintenance from the beginning, asphalt scatters immediately adjacent to the road
Single Layer Surface Treatment (Chip Seal)	Medium	5-7 years	Yes	Yearly to twice a year	Fill potholes, restripe	Provides a smoother surface compared to plain gravel.	Short design life, requires maintenance from the beginning
Asphalt	High	20 years	Yes	Every 2-3 years	Fill potholes and cracks, restripe	Durable, little to no maintenance needed for first 5 years	Requires more maintenance later in the pavement life

This emulsified petroleum resin is characterized as having a thick, milky, dark-brown appearance. It is soluble in water, and has a specific gravity of 1.0254 (heavier than pure water). Because this product contains water, it is non-flammable and safe during use. It is also considered to be non-toxic to aquatic life. See Figure II-7 for an example of MgCl<sub>2</sub>/PennzSuppress D.



**Figure II-7**  
**MgCl<sub>2</sub>/PennzSuppress D**

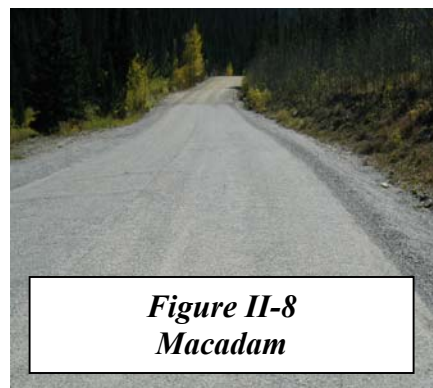
The combination product is useful for the treatment of road aggregate. PennzSuppress D is used to stabilize road base aggregate materials, reducing soil erosion and protecting vegetation from blowing dust and sand. As a general rule, the rate of penetration is rapid in sandy soil, moderately fast in silty soil and slow in clayey soil.

This product is spread directly on the road surface and is specifically made for dust control. PennzSuppress D contains binding agents to hold soil particles together and prevent them from being dispersed into the air. It is normally diluted to a 4:1 ratio (80% water, 20% product). Product may be diluted in different concentrations depending on the specific site needs. An independent study in the Mojave Desert found that PennzSuppress D was only 10% effective in reducing emissions of particulate matter less than ten microns in diameter (PM 10).

As mentioned above, the product is diluted with water. This means that the product would have to be reapplied often since it is water-soluble and tends to wash away whenever it rains or snows. The Guanella Pass Road test strip survey revealed that scattering of the gravel surface began shortly after application. This product must be applied during a season when temperatures remain above freezing.

### **(ii) Macadam Construction**

The construction of a macadam surface begins with a prepared subgrade. The subgrade is overlaid with crushed rock, which is then covered with liquid asphalt that is allowed to penetrate. This process is repeated with successively smaller rock - a kind of asphalt and rock sandwich. See Figure II-8 for an example of a macadam surface.



**Figure II-8**  
**Macadam**

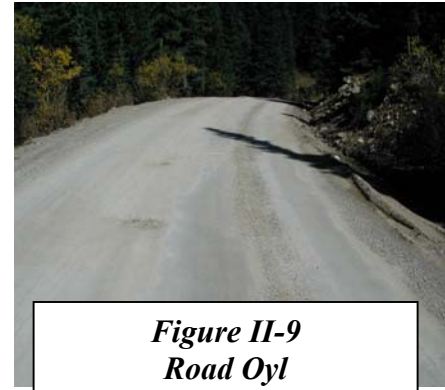
Maintenance is similar to a chip seal surface. The surface is not as durable as chip seal over pavement, and it will not withstand stress such as turning traffic or snow plowing as well as a paved surface with chip seal.

Since this process involves asphalt oil placed with layers of rock, there should be minimal amounts of dust. Therefore, dust suppression should not be a factor with macadam.

Macadam tends to “bleed” during hot weather. This would produce a tar like substance on the roadway. This in turn would most likely end up on vehicles, including maintenance trucks, driving on the roadway surface. The test strip survey performed on Guanella Pass Road indicated that macadam withstood traffic well, with relatively little material scattering.

### **(iii) Road Oyl**

This is a proprietary product made from natural tree resins. The Road Oyl emulsion is mixed into the top layer of a new gravel surface and compacted onto a gravel base. The tree resin binds the gravel surface together to create a hardened surface. See Figure II-9 for an example of Road Oyl.



**Figure II-9  
Road Oyl**

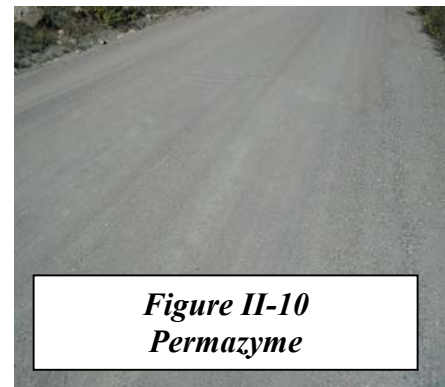
This product is usually applied in a liquid form. One advantage of this product is that it is applied cold. This eliminates the need for heated storage and transport that is needed for most asphalt based surfaces. This product is usually applied to the aggregates on the roadway surface and then compacted. The result is a roadway that retains the characteristic coloration of the constituent aggregate materials. Also, the surface remains cool during the summer.

This product is well suited for general dust control requirements. It bonds the surface so that dust is minimized. This product was evaluated against the PennzSuppress D brand. Road Oyl had a 30 percent effectiveness rating at reducing PM (10) emissions (PennzSuppress D had a 10 percent effectiveness rating). Next to acrylic copolymers, Road Oyl was the most effective during the testing.<sup>1</sup>

Product is applied to the road surface, which then becomes “tacky” for a period of time. The curing process for this product may take over a week, during which time it should not be driven on. This product dries into the roadway, minimizing scattering. This product is claimed to be appropriate for use even in close proximity to wetland areas and other areas of extreme environmental sensitivity. The test strip survey revealed scattering of this road surface after a short period of time.

### **(iv) Permazyme**

Permazyme contains an enzyme that reacts with the clay particles in a gravel roadbed. The product is mixed with water and sprayed into the gravel surface. The gravel and product are then blended together and compacted onto a gravel base. As the product dries, it binds the clay and gravel particles together and creates a hardened surface. This product is in a liquid concentrate form, which is added to water before final application. It is non-toxic, non-corrosive, and totally biodegradable. See Figure II-10 for an example of Permazyme.



**Figure II-10  
Permazyme**

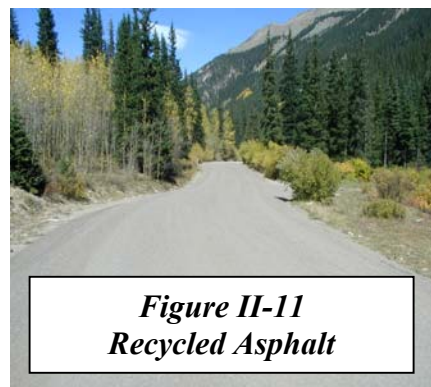
This product bonds the roadway materials together, providing for a non-permeable condition that reduces road wear. This product helps to control dust by eliminating a soft surface and dust created from traffic. This product is marketed more for the roadway stability and durability and not dust control. No tests were found concerning this product.

<sup>1</sup> Saunders, Mark. “Just Say ‘No’ to Dust...Maybe.” [http://www.forester.net/gec\\_0005\\_just.html](http://www.forester.net/gec_0005_just.html) (18 Sept. 2001).

Since this product is applied beneath the roadway surface, the scattering is minimal. As with Road Oyl, this product requires a curing period of at least one week, during which time it should not be driven on. Since the product helps form a water barrier, the product would most likely not wash away. If some of the product is dissolved by weathering or runoff, it will not harm humans, animals, fish or vegetation under normal use.

#### (v) **Recycled Asphalt**

A special machine called a milling machine breaks up asphalt as it is removed from old roads. The old asphalt is then pulverized into smaller pieces for use as a subbase or base material in new roadways. It can also be used as a surface course. The recycled material contains some residual asphalt. The recycled asphalt is mixed with locally occurring crushed rocks and other aggregate. When the recycled material is bladed and compacted into place onto a strong subgrade, the residual asphalt acts as a binder to the crushed pieces and creates a hardened surface. Any recycled asphalt used on Guanella Pass Road will need to be hauled in from another site. See Figure II-11 for an example of Recycled Asphalt.

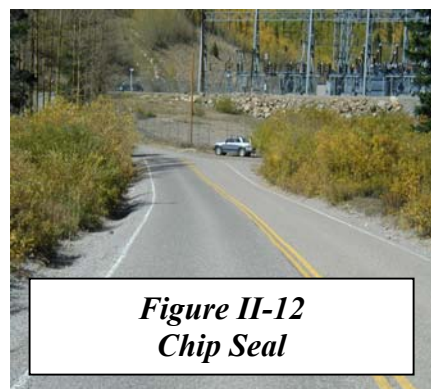


When recycled asphalt is used as a new surface material, the surface looks similar to a gravel road. The material is not loose, as it would be with gravel. Since the recycled asphalt is compacted into a hardened surface, the roadway should produce minimal amounts of dust and scattering should not be a concern. Even after the roadway wears down, it should not produce any dust. After some normal use though, the surface allows some loosening of materials that get pushed to the side of the travel way.

#### (vi) **Chip Seal over Asphalt**

The new asphalt paved surface is covered with a coat of liquid asphalt. This is followed by a layer of coarse aggregate about 1.9 centimeters (0.8 inches) in diameter. See Figure II-12 for an example of Chip Seal.

A chip seal is an application of liquid asphalt followed with small pea-size chips of gravel; however, coarser sizes of aggregate can be used to provide a rougher, more rustic surface. Chip seals are used to retard pavement deterioration, improve skid resistance and waterproof the old pavement. In a single chip seal, an asphalt binder is sprayed on the pavement, then immediately covered by a single layer of uniformly sized chips. A double chip seal is sometimes used to convert a gravel road to a hardened road. This helps reduce maintenance costs on roads where traffic volumes quickly cause the gravel road to “washboard” and pothole as well as providing a nearly dust-free driving surface.



Chip seals improve safety by improving the skid resistance for vehicles as compared to plain asphalt. Chip seals also waterproof the surface and seals small cracks and imperfections.



Since chip seals are essentially hard pavement surfaces, there would be no dust associated directly with the surface treatment. Therefore, chip seals are a very effective means of controlling dust.

Chip seals are applied directly to the surface of the existing roadway. Since chip seals are a hardened surface, there should be no scattering of the surface material. The Guanella Pass test strip survey confirmed this.

## **C. SELECTION OF THE PREFERRED ALTERNATIVE**

The FHWA has selected Alternative 6 as its preferred alternative. The preferred alternative has been selected based on environmental studies addressed in this FEIS and consultation with the public, Town of Georgetown, Clear Creek County Commissioners, Park County Commissioners, State of Colorado, FS, US Fish and Wildlife Service (USFWS), USACE, EPA, and local tribes. The preferred 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 would address the Purpose and Need for this project by:

- Improving the road structure and surface to accommodate projected traffic volume and road users for the next 20 years.
- Correcting the majority of the existing roadway deficiencies although some design exceptions would be needed, most notably for tight curves in the switchback sections of the roadway.
- Providing access needed to allow the FS to more effectively protect and manage the two Forests' natural resources and recreational opportunities.
- Implementing slope stabilization measures where feasible, providing a hardened surface to portions of the road located near streams, and improving drainage all for the purposes of addressing current soil erosion and sedimentation problems associated with the condition of the existing road surface, unvegetated cut slopes, and poor drainage.
- Improving the road so that projected future costs to effectively maintain the road are greatly reduced in comparison with the projected future costs to effectively maintain the road in its current condition.
- Surfacing the road with asphalt pavement with chip seal, gravel with dust suppressant, or alternative hardened surface type to reduce dust and sediment runoff.

Of the alternatives evaluated, the preferred alternative has been selected for implementation for the following reasons:

- Alternative 6, to the greatest extent among the proposed build alternatives, would match the footprint of the existing road thereby minimizing social, economic, and environmental impacts.
- Alternative 6 would result in the smallest increase in future traffic over the No Action Alternative.

- Alternative 6, to the greatest extent among the proposed build alternatives, would maintain the rural character of the road.

## D. COMPARISON OF ALTERNATIVES

Alternatives 2-6 differ in several ways including: the number of segments identified for the level of improvements, the length of paved sections, the proportion of rehabilitation, the type of reconstruction, the design criteria, the typical roadway cross section width, and special sections.

### 1. Proposed Improvements by Segment

The number of segments for Alternative 6 is greater than for Alternatives 2-5. Guanella Pass Road is divided into 38 segments to identify different surface types and more locations where rehabilitation is appropriate. For the purpose of comparison, Table II-3 breaks Alternatives 1-5 into the same 38 segments as Alternative 6. A justification for the type of improvements proposed for each of the segments (as presented in the SDEIS) in Alternative 6 is provided in **Appendix C: Rationale for the Design Criteria and the Proposed Improvements**. For more information on rehabilitation and reconstruction, see **Chapter II.D.4e: Typical Cross Sections**.

*Table II-3  
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 Alt. Surface Type****
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***

Segment	Station	Length km (mi.)	Existing	Alternative 1 – No Action	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6
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 Alt. Surface Type****
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 Alt. Surface Type****
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 Alt. Surface Type****
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 Alt. Surface Type****
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 Alt. Surface Type****
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 Alt. Surface Type****
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 Alt. Surface Type****
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 Alt. Surface Type****
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 Alt. Surface Type****
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

Segment	Station	Length km (mi.)	Existing	Alternative 1 – No Action	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6
Clear Lake	32+260 to 32+400	0.14 (0.09)	Paved	No Action	<b>Full Reconstruct &amp; Pave</b>	<b>Full Reconstruct &amp; Pave</b>	No Action	<i>Rehabilitate &amp; Pave</i>	<b>Light Reconstruct &amp; Pave</b>
Green Lake	32+400 to 33+580	1.18 (0.73)	Paved	No Action	<b>Full Reconstruct &amp; Pave</b>	<b>Full Reconstruct &amp; Pave</b>	No Action	<i>Rehabilitate &amp; Pave</i>	<i>Rehabilitate &amp; Pave</i>
Switchbacks	33+580 to 34+300	0.72 (0.45)	Paved	No Action	<b>Full Reconstruct &amp; Pave</b>	<b>Full Reconstruct &amp; Pave</b>	No Action	<i>Rehabilitate &amp; Pave</i>	<b>Light Reconstruct &amp; Pave</b>
South Clear Creek	34+300 to 34+680	0.38 (0.24)	Paved	No Action	<b>Full Reconstruct &amp; Pave</b>	<b>Full Reconstruct &amp; Pave</b>	<b>Full Reconstruct &amp; Pave</b>	<b>Full Reconstruct &amp; Pave</b>	<i>Rehabilitate &amp; Pave</i>
Waldorf Road	34+680 to 34+920	0.24 (0.15)	Paved	No Action	<b>Full Reconstruct &amp; Pave</b>	<b>Full Reconstruct &amp; Pave</b>	<b>Full Reconstruct &amp; Pave</b>	<b>Full Reconstruct &amp; Pave</b>	<b>Light Reconstruct &amp; Pave</b>
Silverdale A	34+920 to 36+320	1.40 (0.87)	Paved	No Action	<b>Full Reconstruct &amp; Pave</b>	<b>Full Reconstruct &amp; Pave</b>	No Action	<i>Rehabilitate &amp; Pave</i>	<i>Rehabilitate &amp; Pave</i>
Silverdale B	36+320 to 36+600	0.28 (0.17)	Paved	No Action	<b>Full Reconstruct &amp; Pave</b>	<b>Full Reconstruct &amp; Pave</b>	No Action	<i>Rehabilitate &amp; Pave</i>	<b>Light Reconstruct &amp; Pave</b>
Silverdale C	36+600 to 37+200	0.60 (0.37)	Paved	No Action	<b>Full Reconstruct &amp; Pave</b>	<b>Full Reconstruct &amp; Pave</b>	No Action	<i>Rehabilitate &amp; Pave</i>	<i>Rehabilitate &amp; Pave</i>
Georgetown Switchbacks A	37+200 to 38+060	0.86 (0.53)	Paved	No Action	<b>Full Reconstruct &amp; Pave</b>	<b>Full Reconstruct &amp; Pave</b>	<b>Full Reconstruct &amp; Pave</b>	<b>Full Reconstruct &amp; Pave</b>	<b>Light Reconstruct &amp; Pave</b>
Georgetown Switchbacks B	38+060 to 38+300	0.24 (0.15)	Paved	No Action	<b>Full Reconstruct &amp; Pave</b>	<b>Full Reconstruct &amp; Pave</b>	<b>Full Reconstruct &amp; Pave</b>	<b>Full Reconstruct &amp; Pave</b>	<i>Rehabilitate &amp; Pave</i>
Georgetown Switchbacks C	38+300 to 38+640	0.34 (0.21)	Paved	No Action	<b>Full Reconstruct &amp; Pave</b>	<b>Full Reconstruct &amp; Pave</b>	<b>Full Reconstruct &amp; Pave</b>	<b>Full Reconstruct &amp; Pave</b>	<b>Light Reconstruct &amp; Pave</b>
Georgetown Switchbacks D	38+640 to 38+800	0.16 (0.10)	Paved	No Action	<b>Full Reconstruct &amp; Pave</b>	<b>Full Reconstruct &amp; Pave</b>	<b>Full Reconstruct &amp; Pave</b>	<b>Full Reconstruct &amp; Pave</b>	<i>Rehabilitate &amp; Pave</i>
Georgetown Switchbacks E	38+800 to 39+200	0.40 (0.25)	Paved	No Action	<b>Full Reconstruct &amp; Pave</b>	<b>Full Reconstruct &amp; Pave</b>	<b>Full Reconstruct &amp; Pave</b>	<b>Full Reconstruct &amp; Pave</b>	<b>Light Reconstruct &amp; Pave</b>

\* The information provided in this table may be subject to minor modification as the final design is further developed.

\*\* All paved sections may also be surfaced with a chip seal over the asphalt pavement.

\*\*\* All gravel sections may also be surfaced with one of the five alternative surface types identified in **Chapter II.B.6a: Surfacing Options**.

\*\*\*\* The preferred alternative surface type is macadam.

FONT KEY: **Red = Gravel**; **Blue = Macadam**; Black = Paved; *Italics = Rehabilitate*; **Bold = Reconstruct**

## 2. Percentage of Pavement Sections

Alternative 2 results in paving the entire length (100 percent) of Guanella Pass Road. Alternative 3 is the only build alternative that completely returns the road to the existing surface type so that 48 percent would be paved and 52 percent would be gravel. For Alternative 4, the

existing paved sections (36 percent) will remain paved and additional new paved sections are constructed (50 percent), totaling 86 percent pavement. The other 14 percent will remain as a gravel surface. Alternative 5 is similar to Alternative 4, except that the existing pavement sections (36 percent) and existing gravel sections (14 percent) will be rehabilitated to their respective surface type. Alternative 6 maintains the existing paved surfaces with asphalt pavement or asphalt pavement with chip seal and uses gravel or a stabilized gravel surface in gravel areas with one exception. This exception consists of a 3.0 kilometer (1.8 mile) section of road near the Park County and Clear Creek County line (Shelf Road - station 16+140 to 19+140). This section is proposed to be surfaced with asphalt at the request of the maintaining agency (Park County) to reduce costs associated with maintenance of the road. As a result, Alternative 6 includes 56 percent pavement/chip seal, 14 percent gravel surface with a dust suppressant, and 30 percent macadam/alternative surface type. Table II-4 shows the percentage of paved/chip seal surfaces, gravel surfaces with dust suppressant, and surfaces with alternative surface types for each alternative.

**Table II-4**  
**Percentage of Paved/Chip Seal, Gravel, and Alternative Surface Types\***

	Alternative 1 – No Action	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6
Paved/Chip Seal	48%	100%	48%	86%	86%	56%
Gravel w/dust suppressant	52%	0%	52%	14%	14%	14%
Alt. Surface Type**	0%	0%	0%	0%	0%	30%
<i>Total</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>
* The information provided in this table may be subject to minor modification as the final design is further developed.						
** The preferred alternative surface type is macadam.						

### 3. Percentage of Rehabilitation and Reconstruction

Alternative 5 and Alternative 6 are the only alternatives that include rehabilitation of portions of the road. Under Alternative 5, 50 percent of the road is rehabilitated and 50 percent is reconstructed and paved. Alternative 6 increases the total amount of rehabilitation to 63 percent of the road. Alternative 6 also includes 18 percent light reconstruction and 19 percent full reconstruction. Table II-5 shows the mix of improvement work for each alternative. For more information on rehabilitation and reconstruction, see **Chapter II.D.4e: Typical Cross Sections**.

### 4. Design Criteria and Typical Cross Section

The decisions on design criteria (design speed, road curvature, maximum grade, etc.) are made by an evaluation of the individual characteristics and surroundings of the road and are different for every road. The characteristics of the road must be considered as a whole when making such decisions. Several roads in the region may have steeper grades, narrower widths, tighter curvature, and smaller design vehicles, because a comparison of these roads to Guanella Pass Road is an unequal comparison. These other roads have evolved under different criteria and may have different maintaining authorities. The following discussion is provided to explain why certain design criteria or characteristics were chosen or modified for Alternatives 2-6. Alternative 1 is the No Action Alternative; therefore, existing conditions are not altered.

**Table II-5  
Mix of Improvement Work\***

	<b>Alternative 1 - No Action</b>	<b>Alternative 2</b>	<b>Alternative 3</b>	<b>Alternative 4</b>	<b>Alternative 5</b>	<b>Alternative 6</b>
<b>No-Action</b>	100%	0%	0%	50%	0%	0%
<b>Rehabilitate</b>						
Rehabilitate & Pave**	0%	0%	0%	0%	36%	37%
Rehabilitate – Gravel	0%	0%	0%	0%	14%	13%
Rehabilitate – Alt. Surface Type***	0%	0%	0%	0%	0%	13%
<i>Rehabilitation Total</i>	0%	0%	0%	0%	50%	63%
<b>Light Reconstruction</b>						
Light Reconstruct & Pave**	0%	0%	0%	0%	0%	8%
Light Reconstruct – Gravel	0%	0%	0%	0%	0%	1%
Light Reconstruct - Alt. Surface Type***	0%	0%	0%	0%	0%	9%
<i>Light Reconstruction Total</i>	0%	0%	0%	0%	0%	18%
<b>Full Reconstruction</b>						
Full Reconstruct & Pave**	0%	100%	48%	50%	50%	11%
Full Reconstruct – Gravel	0%	0%	52%	0%	0%	1%
Full Reconstruct – Alt. Surface Type***	0%	0%	0%	0%	0%	7%
<i>Full Reconstruction Total</i>	0%	100%	100%	50%	50%	19%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
* The information provided in this table may be subject to minor modification as the design is further developed.						
** The paved sections may be chip seal on asphalt pavement.						
*** The preferred alternative surface type is macadam.						

#### 4a. Functional Classification

Functional classification identifies streets and highways according to the character of service provided. Roads classified as rural collectors are defined as serving through traffic within local areas. Compared to collectors, rural local roads primarily provide access to land adjacent to the collector network and serve travel over relatively short distances. The rural local road system contains all roads not classified as arterial or collector roads.

For Alternatives 2-5, Guanella Pass Road was classified as a rural collector road. Discussion with the local agencies and additional analysis by the FHWA indicate that the primary use of Guanella Pass Road is to provide access to adjacent properties (public and private). This fits the classification as a rural local road. Neither the existing nor proposed Guanella Pass Road is intended to function as a collector to link through traffic between major arterials (I-70 and US 285). Therefore, the functional classification for Alternative 6 was modified to a rural local road. This classification combined with the relatively low design speed, steep grades, and tight curve radii permit the proposed alignment to follow more closely the existing curves, and therefore, make the road slow-going for anyone using it to travel between these two major highways.

#### 4b. Design Speed

The design speed of Alternative 6 varies between 30 and 50 kilometers/hour (km/h) (20 to 30 miles per hour [mph]). This is 10 km/h (6 mph) less than the 40-60 km/h (25 to 40 mph) design speed for Alternatives 2-5. Exceptions to the design speed are made at the various switchbacks

where the design speeds are reduced to 20 km/h (13 mph). The lesser design speed allows a curvilinear alignment that more closely follows the existing roadway.

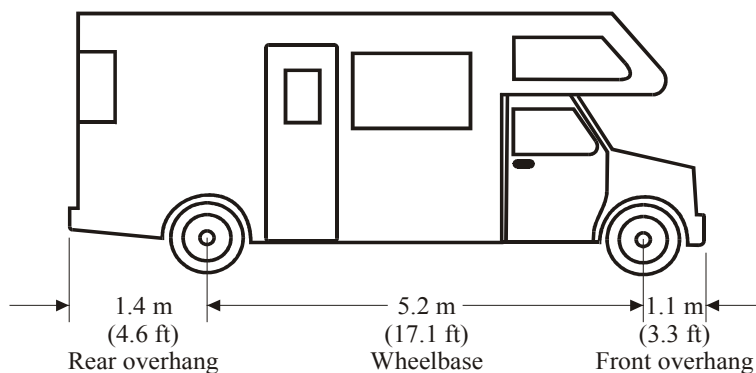
For Alternatives 2-5, the design speed for the first 9.3 kilometers (5.8 miles) from Grant to the south end of Geneva Park is 50 km/h (30 mph), except for the Falls Hill area where the design speed is 40 km/h (25 mph). The next 6.4 kilometers (4.0 miles) extending through the Geneva Park area to the base of the switchbacks at station 15+700 has a design speed of 60 km/h (40 mph). For the next 6.2 kilometers (3.8 miles) up to the summit, the design speed is 50 km/h (30 mph). For the remaining 17.3 kilometers (10.7 miles) from the summit to Georgetown, the design speed is 40 km/h (25 mph). As a result, about 50 percent of the road is designed at 40 km/h (25 mph), 35 percent at 50 km/h (30 mph), and 15 percent at 60 km/h (40 mph). Switchbacks require design speed exceptions to reduce the speed to 20 km/h (13 mph).

For Alternative 6, the design speed for the first 9.3 kilometers (5.8 miles) from Grant to the south end of Geneva Park is 40 km/h (25 mph), except for the Falls Hill area where the design speed is 30 km/h (20 mph). The next 6.4 kilometers (4.0 miles) extending through the Geneva Park area to the base of the switchbacks at station 15+700 has a design speed of 50 km/h (30 mph). For the next 6.2 kilometers (3.8 miles) up to the summit, the design speed is 40 km/h (25 mph). For the remaining 17.3 kilometers (10.7 miles) from the summit to Georgetown, the design speed is 30 km/h (20 mph). As a result, about 50 percent of the road is designed at 30 km/h (20 mph), 35 percent at 40 km/h (25 mph), and 15 percent at 50 km/h (30 mph). Switchbacks require design speed exceptions to reduce the speed to 20 km/h (13 mph).

#### 4c. Design Vehicle

The design vehicle used for Alternatives 2-5 was a single-unit truck with a wheelbase of 6.1 meters (20 feet). The design vehicle for Alternative 6 is reduced to a Class C recreational vehicle with a wheelbase of 5.2 meters (17 feet) (Figure II-13). The design vehicle for Alternative 6 was chosen to represent a designated class of vehicle that the road is intended to accommodate and is not necessarily the majority of vehicles using the road.

Reducing the wheelbase of the design vehicle allows a design that more closely follows the existing roadway. As a result, the minimum switchback radius for Alternative 6 is 12 meters (40 feet) and better matches the radii of the existing switchbacks, as compared to 15 meters (50 feet) for Alternatives 2-5.



**Figure II-13**  
**Design Vehicle – Class C Recreational Vehicle**

#### 4d. Design Grade

The maximum design grade for Alternatives 2-6 is nine percent. This design grade maximum was selected because the majority of the road is within this specification, it provides a consistent expectation for the road user, and it is flat enough to accommodate vehicle use in icy and snowy roadway conditions. In addition, a maximum grade of nine percent is the steepest grade that can effectively hold a gravel surface or stabilized gravel surface without a substantially accelerated loss of surface material.

Approximately 3.8 kilometers (2.4 miles) or one-tenth of the road has a grade greater than nine percent. Rehabilitation and light reconstruction areas will generally match the existing grade, even if it exceeds nine percent. If full reconstruction is proposed in areas where the grade exceeds nine percent, the grade would be reduced to a grade at or below nine percent. For Alternatives 2 and 3, approximately 3.8 km (2.4 miles) of road would be reduced in grade. For Alternatives 4 and 5, approximately 2.8 km (1.8 miles) of road would be reduced in grade. For Alternative 6, approximately 1.0 km (0.6 miles) would be reduced in grade.

#### 4e. Typical Cross Sections

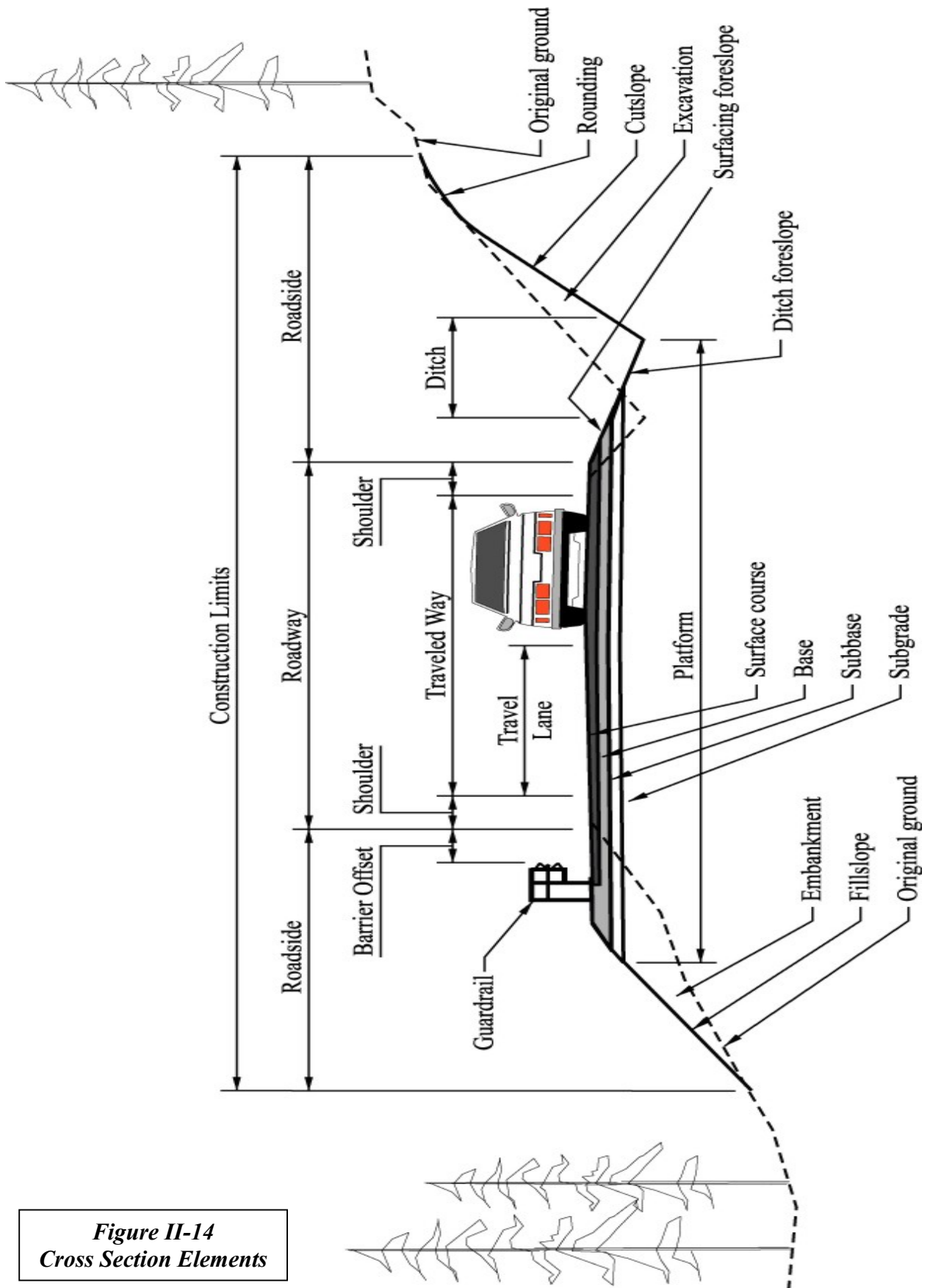
The discussion of typical cross sections for the different types of construction activities (rehabilitation, light reconstruction, and full reconstruction) uses some terms to describe the roadway cross sections that may not be familiar to the reader. Figure II-14 is provided to aid the reader in understanding these terms. Specifically, some of the definitions used in this section include:

- traveled way = travel lanes only
- roadway = travel lanes plus shoulders
- platform = roadway plus the adjacent ditches and foreslopes
- roadside = area immediately outside of the shoulders to the edge of construction disturbance including the foreslopes, ditches, cutslopes, and fillslopes.
- construction limits = the area within the limits of disturbance – approximately 1.0 meter (3.0 feet) beyond the bottom of the fillslope to 3.0 meters (10 feet) beyond the top of the cutslope.
- foreslope = aggregate area immediately outside of the shoulders.

The typical cross section for Alternative 6 differs from Alternatives 2-5 in the width of the roadway and ditch. Alternative 6 is based on the rural local road functional classification for mountainous terrain and an AADT of less than 600 vpd. The American Association of State Highway and Transportation Officials (AASHTO) design guidelines indicate that the minimum width of a traveled way with an AADT of less than 600 vpd for this roadway classification and terrain is 5.4 meters (18 feet). This is 0.6 meters (2 feet) narrower than Alternatives 2-5. The minimum width for each shoulder is 0.6 meters (2 feet). Therefore, the roadway width for Alternative 6 is 6.6 meters (22 feet). The predominant platform width for the typical section is 7.8 to 9.8 meters (26 to 32 feet). Alternatives 2-5 have a minimum traveled way width of 7.2 meters (24 feet).

Because of the new design criteria, the minimum ditch width for Alternative 6 is up to 0.6 meters (2 feet) narrower than the ditch width for Alternatives 2-5 to further minimize impacts.





**Figure II-14**  
**Cross Section Elements**

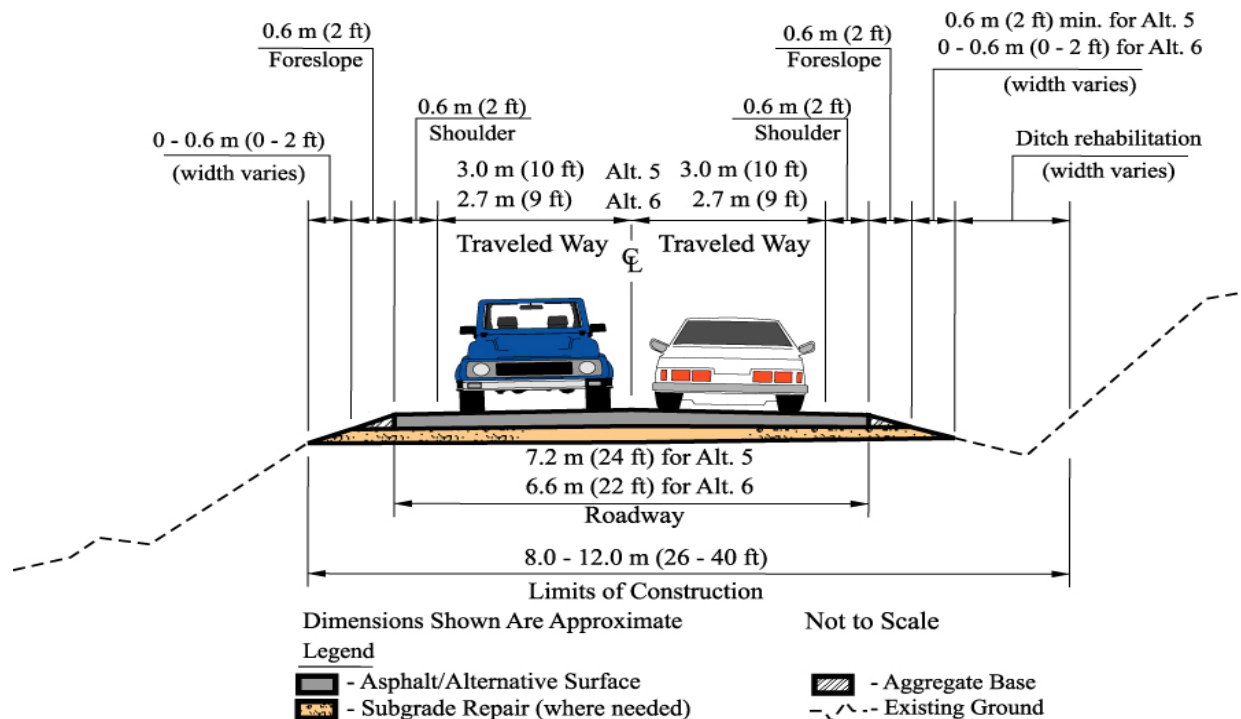
The discussion below provides an explanation of the activities involved in each type of construction (rehabilitation, light reconstruction, and full reconstruction) and the typical extent of construction impacts for all of the build alternatives. Figures II-15a, II-15b, and II-15c show the typical roadway cross sections for rehabilitation, light reconstruction, and full reconstruction. For a more detailed segment by segment analysis of the construction limits please see **Appendix C: Rationale for the Design Criteria and the Proposed Improvements**. Note that all estimates of extent of impacts are subject to minor modification as the design is further developed.

### **(i) Rehabilitation**

Rehabilitation, also known as Resurfacing, Restoration, and Rehabilitation (3R), is used to extend the service life of an existing road and enhance safety. Rehabilitation is work that corrects a roadway that has deteriorated to some minimum acceptable level of performance. Performance considerations include, but are not limited to, functional performance and structural performance. The structural performance of a road surface relates to its physical condition (i.e., cracking, rutting, raveling, and potholing) that adversely affects the load carrying capability or requires maintenance.

Rehabilitation is normally applied to a functionally adequate road when its structural performance has seriously deteriorated. One of the goals of rehabilitation is to improve the road to a “better than existing” condition to upgrade the level of riding quality provided to the travelling public. Rehabilitation work is limited to the roadway platform, with exceptions to include work on severely eroding slopes, drainage structures, bridges, existing retaining walls, and landslides. Work that is often undertaken in 3R projects includes:

- Resurfacing (milling, recycling, and overlaying) existing paved or gravel surfaces.
- Reshaping, regravelling, and compacting existing aggregates.
- Excavating and replacing failed base material and poor subgrade materials.
- Replacing, upgrading, or relocating deteriorated, undersized, or poorly located drainage structures.
- Rehabilitating ditches and adding new culverts for proper drainage.
- Minor widening of the roadway into the existing shoulder, realigning intersections, adding turn lanes, intersection islands, or pullouts, or adjusting curve superelevation (curve banking) if the work can be accomplished on the existing road platform.
- Repairing, rehabilitating, or replacing existing retaining walls.
- Repairing and/or stabilizing landslides, severely eroding slopes, or failing slopes.
- Removing or pulverizing existing pavement to convert a road to an aggregate surface.
- Replacing, upgrading, or adding pavement markings and signage to address changing traffic patterns, new uses or safety problems, as well as to meet current practice.
- Replacing signage or pavement markings due to age, damage, or deterioration.
- Adding new sections of guardrail or guardwall as needed to meet current safety standards.



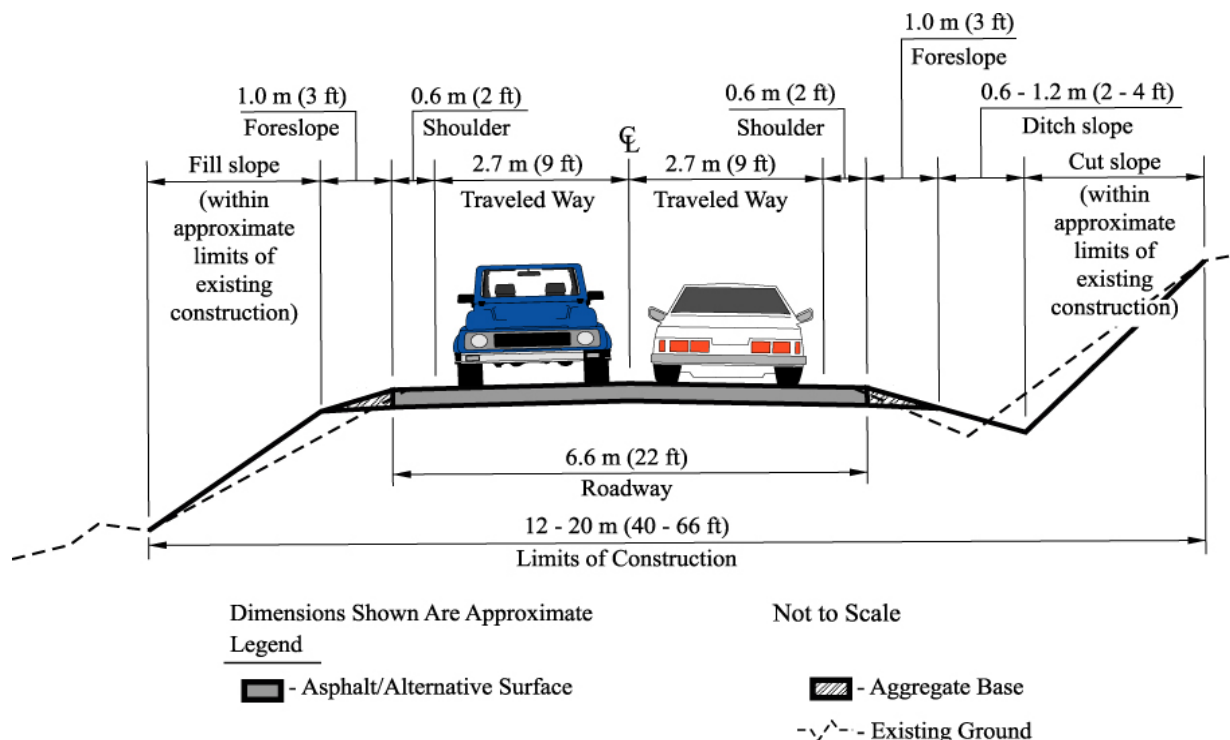
**Figure II-15a**  
**Typical Rehabilitation Section**

- Bridge work often includes rehabilitation of the roadway embankment approaching the bridge, superstructure (deck, rails & girders) replacements, abutment and foundation repairs, installation or replacement of abutment slope protection (e.g. rip-rap), foundation scour repair and protection work to prevent undermining of bridge structure by river/creek, and piling replacements.
- Upgrading existing roadside appurtenances (e.g. signs, delineators) to meet current policies.

Alternatives 2-4 do not involve rehabilitation. For Alternatives 5 and 6, the typical rehabilitation cross section (Figure II-15a) consists of a 7.2 meter (24 foot) roadway width for Alternative 5 and a 6.6 meter (22 foot) roadway width for Alternative 6 plus minor repair work on drainage structures and ditches. Existing cut and fill slopes are not affected except to repair erosion areas and plant native vegetation on barren areas. Construction limits for approximately 24.3 kilometers (15.1 miles) of the rehabilitation areas are approximately between 8.0 and 9.0 meters (26 and 30 feet). Construction limits for other segments, like Georgetown Segment D (see **Chapter II.D.1: Proposed Improvements by Segment**), may extend up to 12 meters (40 feet) depending on existing ditch width.

### (ii) Light Reconstruction

Light reconstruction work is a compromise between rehabilitation and full reconstruction. Light reconstruction is usually considered on roadways that are both structurally and functionally inadequate, but require only minor widening and/or geometric modifications, or where full reconstruction is not possible due to cost or environmental restrictions. The work takes place within the original limits of the existing roadway construction disturbance. The roadway is designed to address improvement of as many of the 13 principal design elements as possible, within the limits of the existing road's original construction disturbance. The 13 principal design

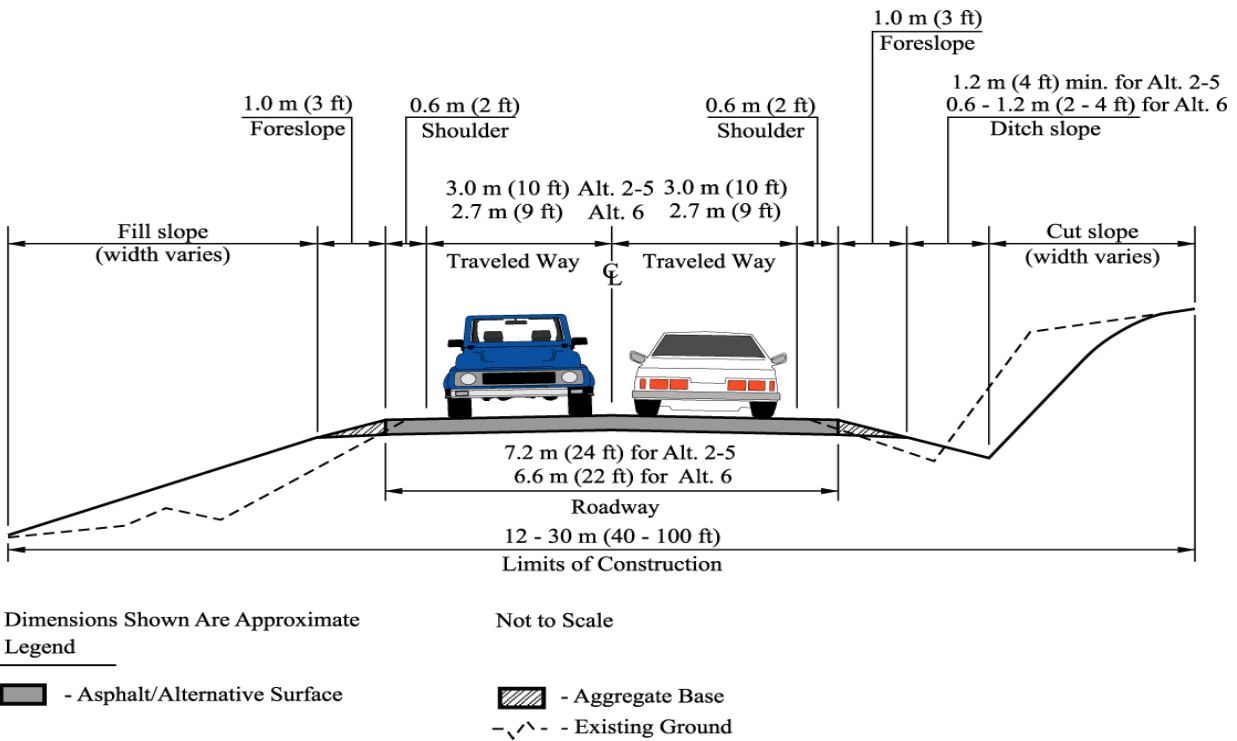


**Figure II-15b**  
**Typical Light Reconstruction Section for Alternative 6**

elements are: design speed, lane width, shoulder width, bridge width, structural capacity, horizontal curvature, vertical curvature, gradient, stopping sight distance, cross slopes, superelevation, horizontal clearance to structures (tunnels and bridge underpasses), and vertical clearance.

Light reconstruction work can include all of the activities listed under rehabilitation as well as the following activities as long as the work occurs within the existing road's approximate original construction disturbance:

- Reconstruction of the cross-section elements to the appropriate cross-section shown in Figure II-15b.
- Replacing the existing structural section (surface course, base, and subbase)
- Reconstructing the cross-section elements to a specific standard.
- Replacing, upgrading, or relocating deteriorated, undersized, poorly located drainage structures. Adding drainage structures as needed.
- Reconstructing the subgrade with quality materials and proper construction techniques.
- Adding retaining walls as needed.
- Rebuilding severely eroding or failing slopes.
- Bridge work including modification or replacement of existing structures.



**Figure II-15c**  
**Typical Full Reconstruction Section**

The typical light reconstruction cross-section (Figure II-15b) for Alternative 6 consists of the 6.6-meter (22 feet) roadway width plus reconstruction of foreslopes, ditch slopes, and portions of the cut slopes, and fill slopes within the approximate limits of the original roadway construction. The other build alternatives, Alternatives 2-5, do not involve light reconstruction. Construction limits for approximately 5.3 kilometers (3.3 miles) of the light reconstruction areas are approximately between 12 and 15 meters (40 and 50 feet). The construction limits for the remaining 1.6 kilometers (1.0 mile) extend approximately between 16 and 20 meters (51 and 66 feet).

**(iii) Full Reconstruction**

Full reconstruction work is the most extensive type of reconstruction. Full reconstruction involves a major change to the existing road within the same corridor. Full reconstruction is considered on roadways that are seriously inadequate for their intended purpose. Work will take place outside the original disturbed limits of the existing roadway. The roadway will be designed to correct the 13 principal design elements, listed under Light Reconstruction, and to fully meet specific operational and safety standards. Full reconstruction will address all of the necessary improvements related to alignment, profile, roadway width, side slopes, drainage, roadway appurtenances, etc.

The limits of full reconstruction for each of the build alternatives (Figure II-15c) are approximately between 12 and 30 meters (40 and 100 feet) wide. Under Alternative 6, approximately 2.8 kilometers (1.7 miles) of the roadway designated for full reconstruction has construction limits between 12 and 18 meters (40 and 60 feet) wide. The remaining 4.1

kilometers (2.5 miles) of roadway designated for full reconstruction has construction limits from approximately 18 to 30 meters (60 to 100 feet). The full reconstruction areas with construction limits up to 30 meters (100 feet) include the South Clear Creek area, the Shelf Road area, Falls Hill, and Naylor Creek.

Each of the build alternatives, Alternatives 2-6, involves full reconstruction to some extent. See **Chapter II.D.1: Proposed Improvements by Segment** for a detailed breakdown of each alternative and the full reconstruction areas within each alternative.

**(iv) Summary of Typical Sections**

Table II-6 summarizes the amount of typical sections as a percentage of the entire route for each of the build alternatives.

**Table II-6**  
**Percentage of Route of Typical Sections**

	Full Reconstruction Typical	Light Reconstruction Typical	Rehabilitation Typical
Alternative 2	49	0	0
Alternative 3	49	0	0
Alternative 4	22	0	0
Alternative 5	22	0	49
Alternative 6	12	5	55

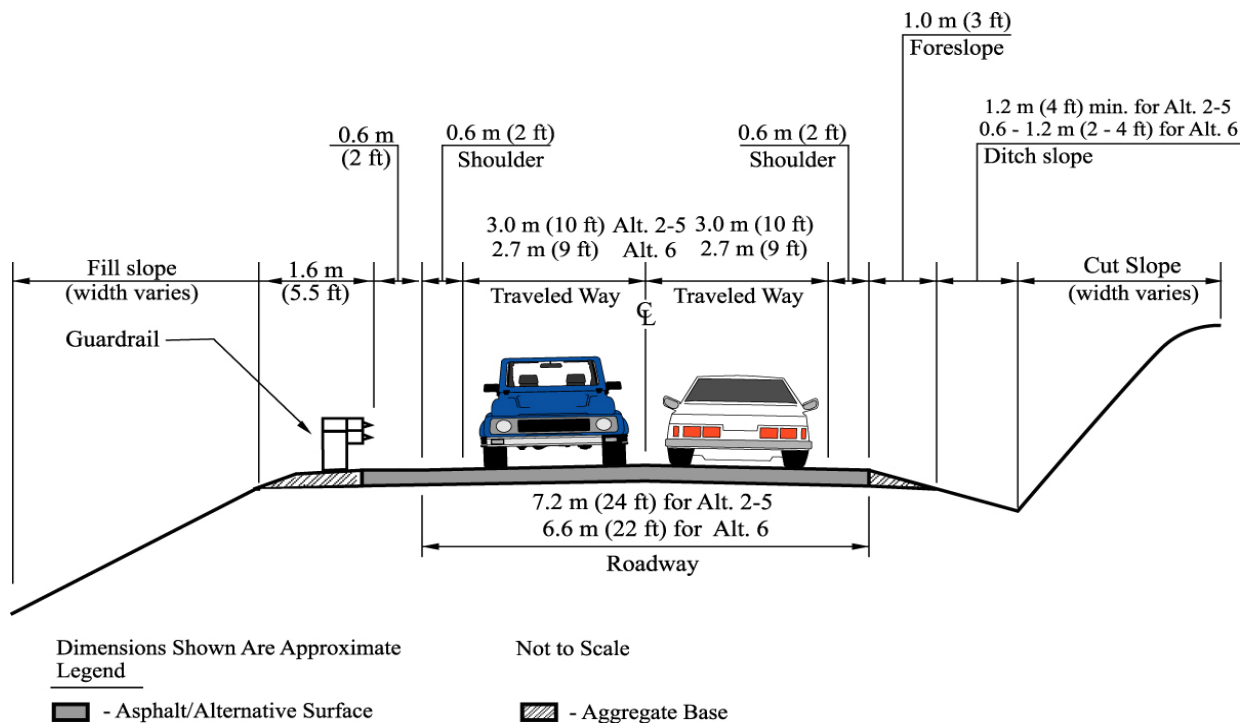
*Note: Typical Sections do not add up to 100 percent due to portions of the route that require Special Sections.*

**5. Special Sections**

Special sections, instead of typical sections, are used in areas where additional safety measures are needed or in areas where the proposed geometry of the road is not easily accommodated by the existing roadway conditions. Below is a general discussion of special sections that are proposed for the Guanella Pass Road. Refer to **Appendix C: Rationale for the Design Criteria and the Proposed Improvements** and **Appendix D: Locations of Special Cross Sections** for a detailed description of the length and location of these special sections. Note that all estimates provided may be subject to minor modification as the design is further developed.

**5a. Guardrail Sections (Figure II-16a)**

Guardrail is constructed in areas where steep drop-offs or other roadside hazards exist. Guardrail requires 2.2 meters (7.5 feet) of width (for guardrail support) beyond the shoulder (left half of Figure II-16a). This width includes 1.6 meters (5.5 feet) of width for the guardrail and support and a 0.6-meter (2 feet) offset from the edge of the shoulder to the face of the guardrail. Therefore, construction of guardrail special sections requires a wider platform than the light or full reconstruction typical sections, adding 1.4 meters (4.5 feet) to the width of the platform. This additional widening has a paved or alternative surface only to the front of the guardrail post. Because of the protection provided by the guardrail, the foreslope in these areas is constructed at 1:2 (vertical:horizontal) to keep the fillslope width as narrow as practical to reduce impacts but still provide a slope that can be revegetated. This does not include the guardrail used along MSE wall sections (further addressed in **Chapter II.D.5b: Mechanically Stabilized Earth Retaining Wall Sections**). The materials to be used for guardrail construction will be determined during the final design of the project (see **Chapter II.G.3: Guardrail Design and Materials**).



**Figure II-16a**  
**Guardrail Special Section**

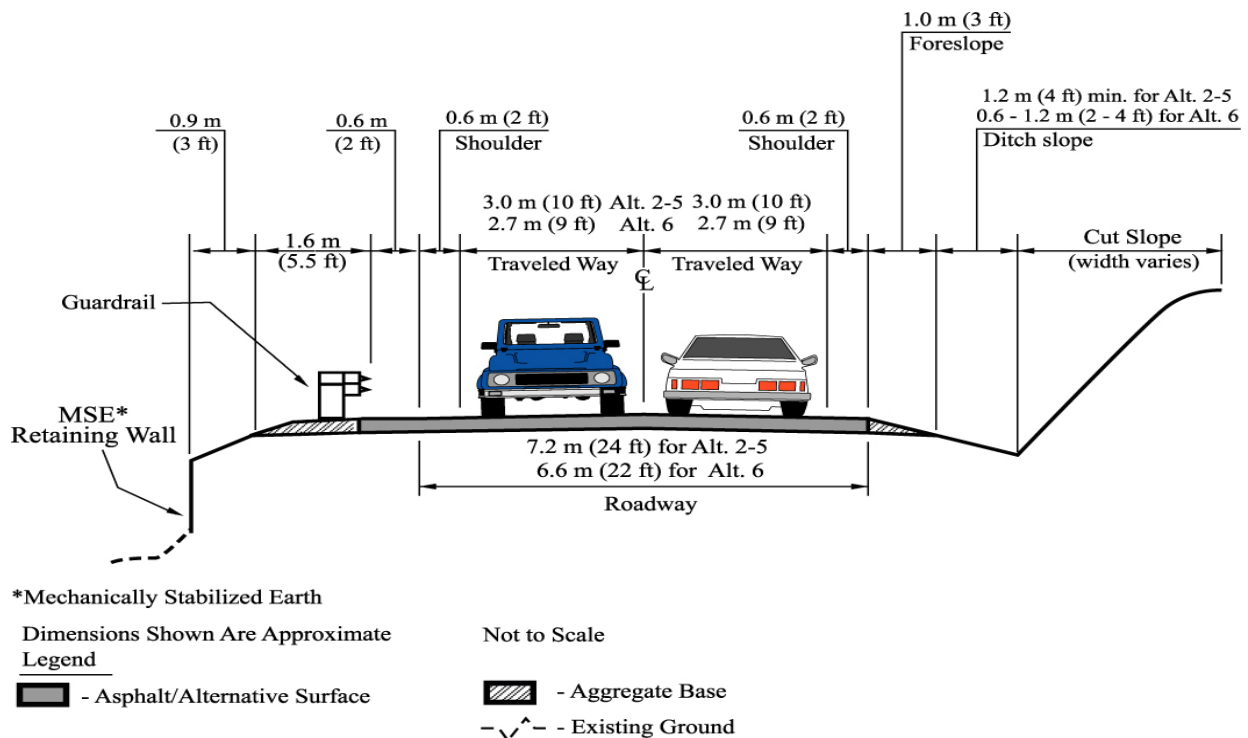
Refer to **Chapter II.D.5h: Summary of Special Sections** for a detailed breakdown of guardrail sections for each alternative (as a percentage of the entire route).

**5b. Mechanically Stabilized Earth Retaining Wall Sections (Figure II-16b)**

MSE retaining walls (left half of Figure II-16b) are used in areas where it is necessary to elevate the road (particularly when adjacent to creeks) or widen the road on a down-sloping hillside where an embankment fill slope is not appropriate. They are also used in areas where fill-side retaining walls are needed and the additional width needed to build this type of wall is available.

There are several areas that are proposed to have MSE retaining wall including, but not limited to, the following locations:

- the Shelf Road area
- above Duck Lake
- the upper switchbacks in Clear Creek County
- along South Clear Creek above the Clear Lake Campground
- north of Green Lake
- below the Waldorf Road cutoff



**Figure II-16b**  
**MSE Wall Special Section**

Construction of MSE walls requires a wider platform area than the light or full reconstruction typical sections (Figures II-16b), adding 2.1 meters (7.5 feet) to the width of the platform. All MSE wall locations include the installation of guardrail. MSE walls are less expensive to build than most other types of slope stabilization options; therefore, they are used whenever possible to reduce land impacts.

The materials to be used for the retaining walls will be determined during the final design (see **Chapter II.G.1: Retaining Wall Design and Slope Treatments**). All retaining walls will be designed to accommodate the use of heavy (22,700 kilograms [50,000 pounds]) fire emergency equipment (water pumpers) to access the water reservoir.

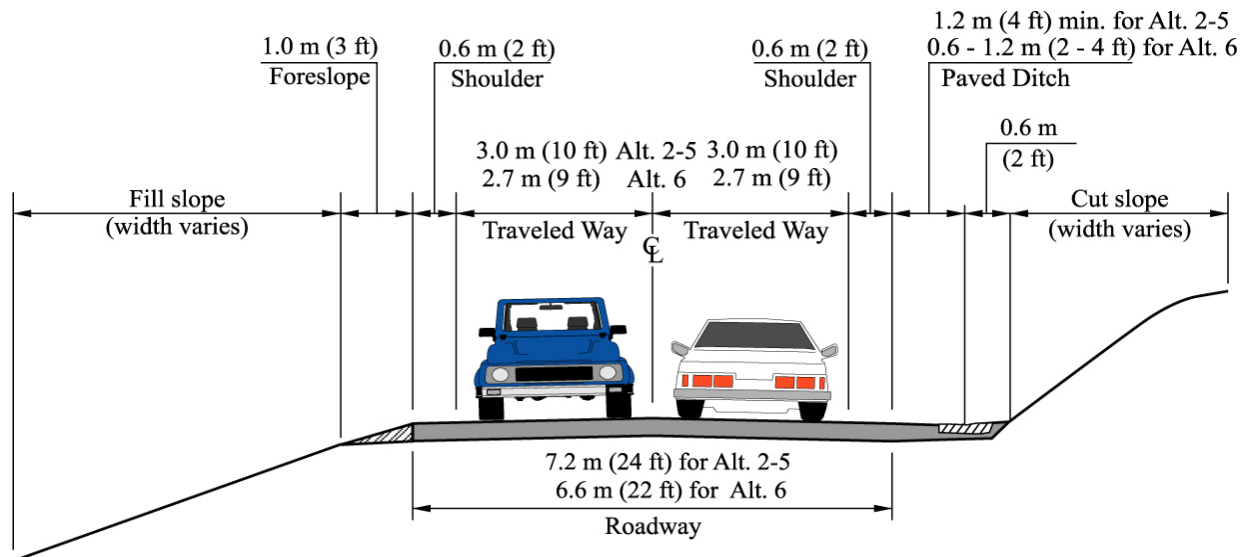
Refer to **Chapter II.D.5h: Summary of Special Sections** for a detailed breakdown of MSE retaining wall sections for each alternative (as a percentage of the entire route).

**5c. Paved Ditch Sections (Figure II-16c and Figure II-16e)**

In especially steep or confined areas, paved ditches reduce the width of the foreslope and ditch by approximately 0.4 meters (1.3 feet) as compared to a Typical Full Reconstruction Section (Figure II-16c). The paved ditch section for Alternative 6 is up to 0.6 meters (2 feet) narrower than Alternatives 2-5 in select locations (additional culverts will be required for proper drainage). The reduced ditch can be used in combination with either a cut slope or a cut-side retaining wall (right half of Figure II-16e).

Refer to **Chapter II.D.5h: Summary of Special Sections** for a detailed breakdown of paved ditch sections for each alternative (as a percentage of the entire route).





Dimensions Shown Are Approximate  
Legend

Not to Scale

■ - Asphalt/Alternative Surface  
▨ - Concrete

▩ - Aggregate Base

**Figure II-16c**  
**Paved Ditch Special Section**

### 5d. Cut-Side Retaining Wall (Figure II-16d and Figure II-16e)

Cut-side retaining walls are used in areas where steep slopes exist. This type of retaining wall stabilizes the slope and minimizes the amount of excavation and disturbance. The Geneva Canyon, Falls Hill area, and the Georgetown switchbacks are among the areas proposed to have cut-side retaining walls. The materials to be used for retaining wall construction will be determined during the final design of the project (see **Chapter II.G.1: Retaining Wall Design and Slope Treatments**) and will take into account visual sensitivity and context of the proposed location.

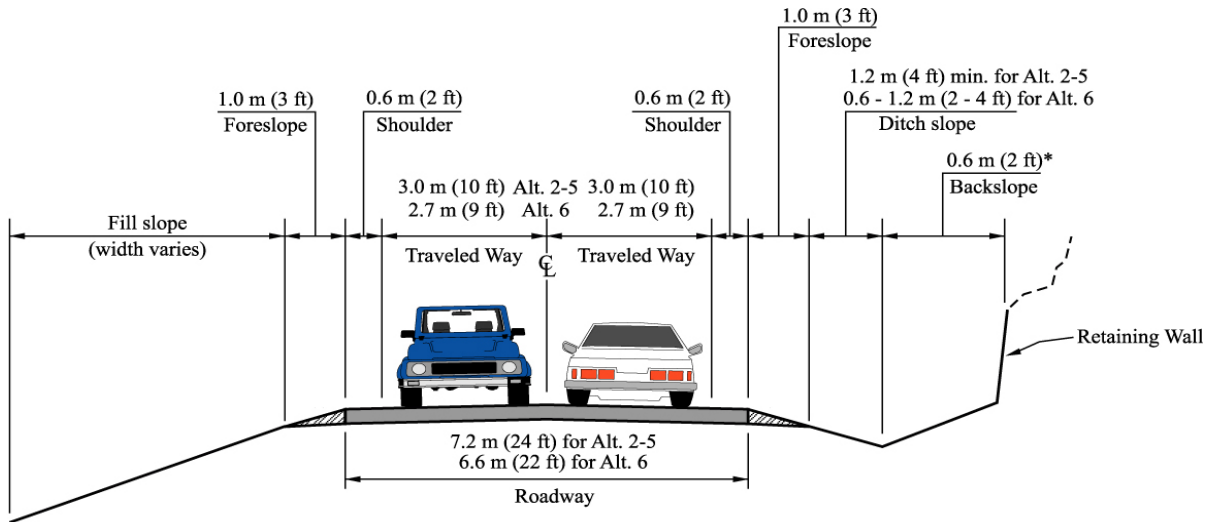
Refer to **Chapter II.D.5h: Summary of Special Sections** for a detailed breakdown of cut-side retaining wall sections for each alternative (as a percentage of the entire route).

### 5e. Concrete Wall (Figure II-16f)

Concrete retaining walls (left half of Figure II-16f) are used to provide a narrower section on a down-sloping hillside than an MSE wall or embankment fill slope. They are also used in areas where fill-side retaining walls are needed and the width in the corridor is restricted. A concrete wall section is presently not proposed for Alternative 6, but may be considered as an option to MSE wall during final design if necessary.

Concrete walls are more expensive to build than most other types of wall; therefore, they are used only where necessary and because of the visual sensitivity of the roadway, would typically only be used where they would not be highly visible.

Refer to **Chapter II.D.5h: Summary of Special Sections** for a detailed breakdown of concrete wall sections for each alternative (as a percentage of the entire route).



\*Back slope section occurs only in the Shelf Road area.

Dimensions Shown Are Approximate  
Legend

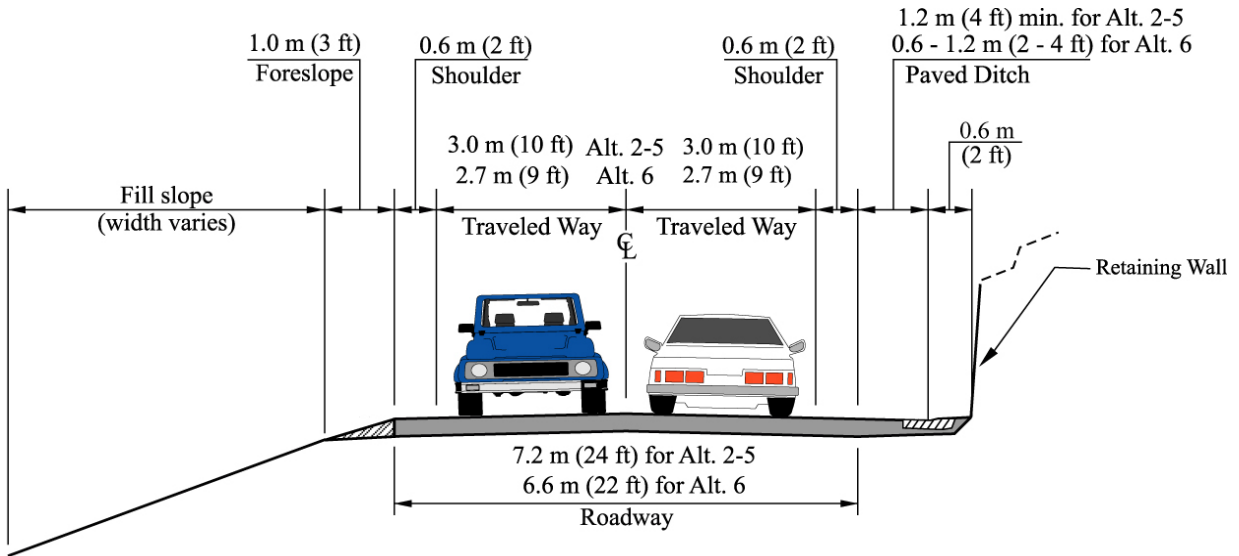
Not to Scale

- Asphalt/Alternative Surface

- Aggregate Base

- Existing Ground

**Figure II-16d**  
**Cut-Side Retaining Wall Special Section**



Dimensions Shown Are Approximate  
Legend

Not to Scale

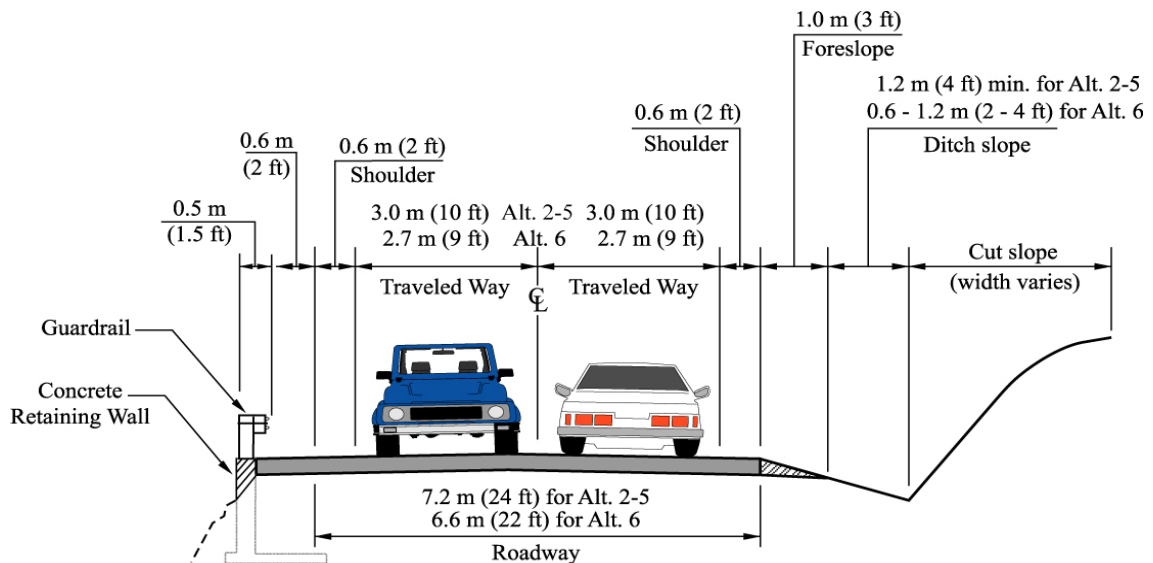
- Asphalt/Alternative Surface

- Aggregate Base

- Concrete

- Existing Ground

**Figure II-16e**  
**Paved Ditch & Cut-Side Retaining Wall Special Section**



Dimensions Shown Are Approximate  
Legend

■ - Asphalt/Alternative Surface  
▨ - Concrete

Not to Scale

▨ - Aggregate Base  
-√'- - Existing Ground

**Figure II-16f**  
**Concrete Wall Special Section**

### 5f. Rockfall Ditch (Figure II-16g)

A wider ditch than the typical section is proposed for the Shelf Road area (Station 16+250 to 18+650) where high rockfall potential and steep slopes exist. The ditch is designed to catch falling rocks. Under this variation, a ditch 1.8 meters (6 feet) wide is added to create the rockfall ditch (see right half of Figure II-16g).

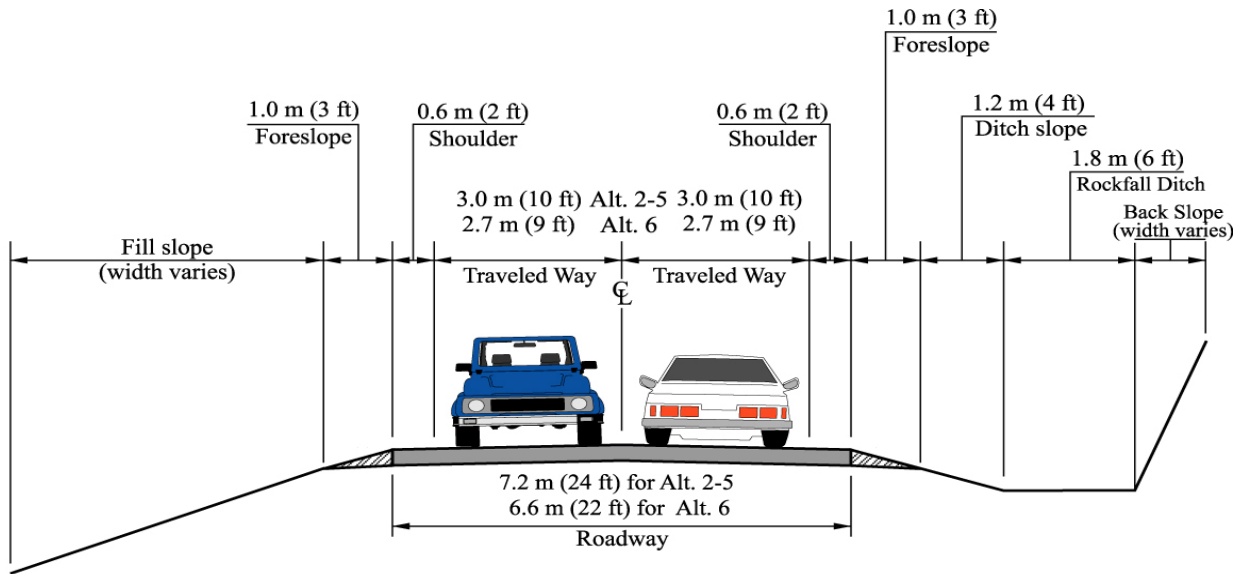
Refer to **Chapter II.D.5h: Summary of Special Sections** for a detailed breakdown of rockfall ditch sections for each alternative (as a percentage of the entire route).

### 5g. Georgetown Area (Figure II-16h)

Figure II-16h shows the special section proposed for the top of the switchbacks into Georgetown. This area is in steep terrain along Leavenworth Mountain and is particularly sensitive to visual impacts as it forms the backdrop for Georgetown within GSPNHL. Changes to the standard typical section through this area were sought by Georgetown officials and agreed to by the FHWA. These changes, described below, minimize widening, vegetation removal, and visual impacts.

On the cut (up-hill) side of the road, the paved ditch (right half of Figure II-16h) is similar to that shown in the right half of Figure II-16c except that the distance between the shoulder edge and the bottom of the paved ditch is limited to 0.6 meters (2 feet).

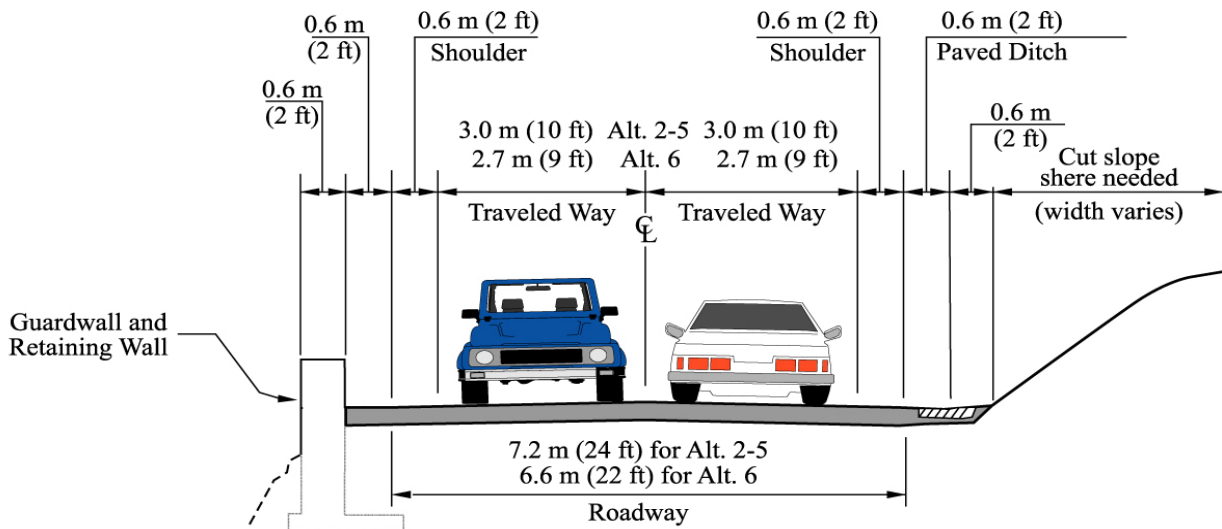
On the fill (down-hill) side of the road, a guardwall and retaining wall is proposed (left half of Figure II-16h). This results in considerably less widening and more improved screening of the wall by existing trees and other vegetation.



Dimensions Shown Are Approximate  
Legend

Not to Scale

**Figure II-16g**  
**Rockfall Ditch Special Section**



Dimensions Shown Are Approximate  
Legend

Not to Scale

**Figure II-16h**  
**Georgetown Switchbacks Special Section**

Overall, the proposed special section in the Georgetown area reduces the platform width compared to the MSE wall and standard ditch section by up to 1.9 meters (6.2 feet). The structural and drainage elements associated with this narrower typical section are more expensive to construct and create a more developed setting. The materials to be used for retaining wall construction will be appropriate for the visual sensitivity and context of the proposed location.

Refer to **Chapter II.D.5h: Summary of Special Sections** for a detailed breakdown of the special sections proposed for the Georgetown area for each alternative (as a percentage of the entire route).

## 5h. Summary of Special Sections

Table II-7 summarizes the amounts of special sections as a percentage of the entire route for each of the build alternatives. **Appendix D: Locations of Special Cross Sections** provides a detailed description of lengths and locations for the special sections.

*Table II-7  
Percentage of Route for Each Special Section Type*

	Paved Ditch	Cut Wall	MSE Wall*	Concrete Wall	Guardrail	Rockfall Ditch	Georgetown Reduced Paved Ditch	Georgetown Guardwall and Retaining Wall*
Alternative 2	34	3	26	3	7	6	5	5
Alternative 3	21	3	26	3	7	6	5	5
Alternative 4	13	1	20	0	2	6	5	4
Alternative 5	19	1	20	0	2	6	5	4
Alternative 6	17	2	14	0	5	6	2	4

\* MSE and concrete wall sections and Georgetown Terminus sections include guardrail and/or guardwall.  
NOTE: The work for the rehabilitated special sections will remain within the existing platform and include foreslopes and ditches.

## 6. Management Responsibilities

The cooperation of the local agencies (Clear Creek County, Park County, and the Town of Georgetown) is needed for the management of Alternative 6 due to the new functional classification and design criteria. The change in the functional classification, the smaller design vehicle, and the incorporation of more rehabilitation into the design requires commitments and policy decisions from the local agencies as well as the FS. These commitments translate into management responsibilities that, when implemented, allow the road to continue to function as a rural local road. These management responsibilities are outlined in Table II-8.

Winter closure, discussed in **Chapter II.E.3: Winter Closure**, is not necessary for Alternative 6 to be a viable alternative. Winter closure is an option for Clear Creek County, Park County, and the Town of Georgetown to pursue. If winter closure is implemented by the maintaining authorities, additional responsibilities fall upon the maintaining authorities that do not specifically relate to Alternative 6. More specific management responsibilities have not been identified at this time. Additional coordination with the managing agencies and more definition of the responsibilities is needed if winter closure of the road is selected as an option.

## E. OPTIONS COMMON TO ALL BUILD ALTERNATIVES

Five options are presented for consideration in this FEIS. These could be considered appropriate for any of the build alternatives. These options include improving existing or building new parking areas, locating the material source sites, closing Guanella Pass during the winter, building and improving an equestrian trail, and constructing minor road realignments in three areas.

**Table II-8  
Management Responsibilities**

<b>New Design Criteria</b>	<b>Management Responsibility</b>
<b>More Rehabilitation</b> Change rehabilitation sections from the 0-50 percent range for Alternatives 2-5 to 64 percent for Alternative 6.	Clear Creek County, Park County, and the FS acknowledge that more rehabilitation will compromise the safety enhancements and long-term service life to minimize environmental impacts and maintain the existing character of the road. Maintenance cost and effort will be greater than if the additional rehabilitated areas were reconstructed as proposed in the DEIS.
<b>Functional Classification</b> Change from a rural collector road to a rural local road.	Clear Creek County, Park County, and the FS will ensure that any future land development activities acknowledge the limitations of the roadway design and will manage the road for local traffic rather than to accommodate substantial through traffic or commercial traffic.
<b>Roadway Width</b> Change from 7.3 meters (24 feet) to 6.7 meters (22 feet).	Clear Creek County, Park County, Georgetown, and the FS will cooperatively manage the vehicle size limitations, and do not intend to accommodate large RV's, buses, or commercial truck traffic, except under some form of special permit system with special advisory signing.  FHWA is recommending that a permit be required for any vehicles over 7.6 meters (25 feet) in length and that advisory signs be placed at the beginning of Guanella Pass Road or at the entrance to Georgetown off of I-70.
<b>Design Vehicle</b> Change from a single-unit vehicle with a 6.1-meter (20-foot) wheel base to a Class C motor home with a 5.2-meter (17-foot) wheel base. With respect to towed vehicles, a pick-up truck having a 7m (23 ft) boat/trailer would comply with this Class C motor home dimension.	
<b>Switchback Radius</b> Change from a minimum radius of 15 meters (50 feet) to 12 meters (40 feet).	
<b>Design Speed</b> Change from 40-60 km/h (25-37 mph) to 30-50 km/h (19-31 mph).	
	Clear Creek County, Park County, and Georgetown will manage the operating speeds.

## 1. Parking Areas

The FS is proposing to improve parking areas to help manage and contain the use of vehicles in the recreation areas of the forest and ensure compliance with FS Visual Quality Objectives (VQOs). Figure III-20 in **Chapter III: Affected Environment and Environmental Consequences** discussed future parking demands and displays the locations of existing and proposed parking areas along the corridor. The proposed improvements included in all of the build alternatives are listed below:

- Geneva Creek Picnic Ground (station 4+000) – The existing parking area, which accommodates 5 vehicles, will be retained but decreased in size to accommodate 3 vehicles.
- Grant Byway Entrance (station 4+100 to 4+150) – This new parking area will provide parking for approximately 15 vehicles.
- Whiteside Campground (station 4+820 to 4+870) – The existing parking area, which holds 10 vehicles, will be retained.
- Threemile Creek Trailhead (station 5+500 to 5+550) – The existing parking area, which currently holds 4 vehicles, will be retained.

- Burning Bear/Abyss Trailhead (station 9+350 to 9+400) – The existing parking area, which accommodates 40 vehicles, will be rehabilitated and a new area created that will meet VQOs. There will be parking for approximately 40 vehicles and 5 horse trailers.
- Duck Creek Picnic Ground (station 12+300; Winter Closure Site) – This parking area is an expansion of the existing picnic area, parking area, and turnaround. There will be parking for approximately 10 vehicles and 4 horse trailers.
- Guanella Pass (station 21+750 to 21+950) – Formalized parking areas are proposed on both the eastern and western sides of the pass. The existing northern summit parking area will be reclaimed and the southern parking area will be expanded. All informal parking along the road will be eliminated. Two alternative entrance roads to the western parking area have been proposed, to avoid disturbing a lithic scatter that may be eligible for the National Register of Historic Places (NRHP). The FHWA is committed to performing biological surveys of the two new entrance roads prior to construction, in addition to addressing comments from Native American groups regarding potential impacts to Traditional Cultural Properties (TCPs). The west parking area will hold approximately 60 vehicles and will be closed by the FS in the winter. The east parking area will hold approximately 50 vehicles.
- Clear Creek Winter Closure Site (station 24+600) – This new parking area is located in an existing switchback south of the intersection with Naylor Lake Road. There will be parking for approximately 35 vehicles.
- Cabin Creek Hydro Station (station 30+710 to 30+770) – The existing gravel pullout, which holds 10 vehicles, will be improved and paved. There will be parking for approximately 6 vehicles after improvements.
- Clear Lake Parking Lot (station 32+000) – The existing parking area, which accommodates 45 vehicles, will be retained.
- Waldorf/Kirtley Mine Parking Area (station 35+000) – This existing parking area will be retained.
- Silverdale (station 35+750 to 35+800) – The existing parking area is proposed for expansion to include the Scenic Byway entrance facilities. This area will require a grade change including additional fill and the relocation of a powerline. There will be parking for approximately 20 vehicles.

## 2. Material Source Locations

Roadway design will attempt to balance the material taken from cuts with the amount used in fills. Where this is not possible, borrow material will be obtained from sites near the construction areas.

The first proposed site is near Duck Lake just south of Guanella Pass at station 19+200 on the east side of Guanella Pass Road. This location was probably used as the materials source for the construction of the Geneva Basin Ski Area parking lot and access road. Initial testing of the material on the Duck Lake site has indicated that it is suitable for use as a road base and surface course for either a paved or gravel road.

The second proposed site is the Geneva Basin Ski Area parking lot. The access road to the site is located at station 18+250. Because of its location, size, and layout, this site can be used for more than just a materials source. The site has the potential to be used as a staging area for equipment and for a hot-mix asphalt plant. Like the Duck Lake site, initial testing of the material has indicated that it is suitable for use as a road base and surface course for either a paved or gravel road.

### 3. Winter Closure

#### 3a. Background

The decision to close or not maintain Guanella Pass Road during the winter lies with the agencies that have legal jurisdiction of the road: Park County, Clear Creek County, the FS, and the Town of Georgetown. The option for winter closure or no winter maintenance is presented in response to comments made regarding the economic and ecological costs of maintaining the road year-round (winter closure would reduce annual maintenance costs as well as the amount of maintenance-associated sediment).

Winter closure of Guanella Pass Road is an option that has been raised by Clear Creek County, Park County, and the Town of Georgetown as a means to lower maintenance costs. *Winter closure* of the road means that a physical barrier restricts access to the road. Another option under consideration is not to maintain the road in certain sections. The option of *no maintenance* of the road means that the Counties do not physically block the road, but instead, the Counties do not remove any snow accumulation from the road during the course of the winter. This option is opposed by the FS due to associated problems with illegal off-road use and search and rescue efforts.

The Clear Creek County and Park County Commissioners have discussed the potential closure of Guanella Pass Road and generally feel that it is a viable option for the winter. The Georgetown Town Council and the Georgetown Planning Commission held a public hearing on May 3, 2000 and discussed the winter closure proposal. They recommended the closure from Guanella Pass Campground to the summit and recommended a no maintenance policy from Clear Lake Campground (near Cabin Creek where the paved section ends) to Guanella Pass Campground. The Clear Creek County Commission held a public hearing regarding the issue on May 23, 2000 and agreed that there would be no negative economic impact to the County by a closure of Guanella Pass Road in the winter. Park County has approved closure contingent upon Clear Creek County approving closure. However, the Clear Creek County Commissioners have stopped short of approving the closure proposal and have no immediate plans to make a final decision on winter closure. If the agencies decide to implement winter closure, any necessary environmental reviews will be performed at that time.

At this time, the counties have concluded that no specific closing and opening dates would be set, but rather the road will be closed when weather requires and opened when weather permits. By not setting any specific opening and closing dates, the counties may save money on plowing by not having to meet established opening and closing dates.

The potential road closure will not be considered as mitigation for environmental impacts to any threatened and endangered species. However, winter closure could result in a beneficial reduction of potential impacts to wildlife in the Guanella Pass area. The action that the current



County Commissioners take cannot bind a future Board of Commissioners and, therefore, cannot guarantee the benefit provided by a potential road closure. See **Chapter III.D: Environmental Impacts of Winter Closure** for more information.

### **3b. Assumptions about Winter Closure**

In the discussion of the environmental impacts of winter closure in **Chapter III: Affected Environment and Environmental Consequences**, this FEIS assumes that winter closure can be implemented by agreement between FS and Clear Creek County, Park County, and the Town of Georgetown. In addition, the evaluation of impacts assumes the following:

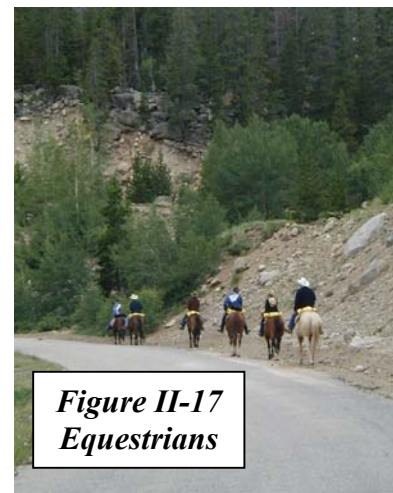
- The location of the road closure in Clear Creek County is proposed to be south of Naylor Lake Road (Station 24+600 near the switchback). A parking area with about 35 parking spaces and turnaround is needed at this location, regardless of winter closure, to accommodate the winter recreationists using Naylor Lake Road.
- Currently, Park County plows to a point about 11.5 kilometers (7.1 miles) north of Grant. The County does not officially close the road; however, the road is not maintained beyond this point. For this evaluation, the road closure for Park County is assumed to be at station 12+300, near Duck Creek Picnic Ground, or about 11.0 kilometers (6.8 miles) north of Grant. This area will be an expansion of the exiting picnic area, parking area, and turnaround. There will be parking for approximately 10 vehicles and 4 vehicles with trailers.
- Neither county will allow use of recreational vehicles (snowmobiles, etc.) on closed portions of the road, except by special permit from the appropriate county.

## **4. Equestrian Trail Segments**

It was determined that constructing additional equestrian trail segments is a viable option for all build alternatives. The equestrian trail would be included as a safety measure.

Most of the trail already exists, and is currently used by hikers and equestrians. The trail is also frequently used by the local dude ranch. Construction of additional segments would provide a safer trail for hikers and horseback riders away from the traffic on Guanella Pass Road. Currently, for portions of the trail, equestrians are forced to ride along the shoulder of the road. This is shown in Figure II-17.

The preliminary location of the equestrian trail has been identified. The FHWA will coordinate efforts to finalize the equestrian trail location with possible users of that trail. It is anticipated that the majority of the proposed equestrian trail will use existing trails. Where a new trail needs to be developed, the FHWA will conduct all appropriate environmental evaluations prior to the development of the equestrian trail.



## 5. Minor Road Realignments

Generally, the proposed road under all build alternatives matches the existing alignment, with three exceptions. These exceptions are located at stations 18+900 to 19+200 (Duck Lake Access Road), stations 19+447 to 19+622 (Duck Lake Switchback), and stations 24+500 and 25+235 (Lower Guanella Pass Switchbacks). These areas of the existing Guanella Pass Road alignment are not up to current safety and design standards. The proposed realignments are aimed at addressing and correcting these issues while at the same time retaining the visual quality and character of the road. Wherever the existing alignment is abandoned, the original contours of the land form are regraded and revegetated with native plant species to help preserve the visual quality and character of the area. See **Chapter III.B.3: Visual Quality** for more information.

## F. OTHER ALTERNATIVES CONSIDERED AND ELIMINATED

### 1. Permanent Road Closures

Several alternatives have been discussed that require permanent closure of the road either completely or partially. These alternatives include:

- Close road to through traffic and keep open only for bicyclists.
- Close road permanently at the top of the pass.

These alternatives were eliminated from consideration because they do not meet the objectives of the Guanella Pass Road project. In addition, they do not support the activities of the FS and do not meet the FS goals of providing mobility within the project corridor and access for the general public to forest resources. These are not alternatives that fall under the FHWA's jurisdiction, as this decision must be made by the road management agencies.

### 2. Remove All Pavement

Alternatives that remove all pavement from the road surface were eliminated from consideration because they do not meet the specific objectives of the project to address environmental concerns, maintain the existing character of the road, and reduce maintenance costs to Clear Creek County and Park County. Gravel roads typically are more expensive to maintain than paved roads. Reducing the amount of pavement would only serve to increase the amount of damage done to sensitive environmental areas adjacent to the road. Gravel lost from a roadway surface due to erosion and maintenance activities is cast into the adjacent ditches, wetlands, riparian, and aquatic habitats.

### 3. Designate Road as a 4-Wheel Drive Road Only

This alternative was eliminated from consideration because it does not meet the FS objective of accommodating access to FS facilities located within the Guanella Pass corridor. The volume and type of traffic on the road suggests that more than just 4-wheel drive enthusiasts are interested in using the road.

## 4. Additional Widening for Pedestrians and Bicycles

Three bicycle/pedestrian facility options were considered as an addition to the Guanella Pass Road improvements. These options included constructing:

- A shoulder 1.2 meters (4 feet) wide on each side of the road.
- A shoulder 2.4 meters (8 feet) wide on one side of the road.
- A 2.4-meter (8-foot) wide bicycle path on a separate alignment.

Each of these was eliminated because of the additional environmental impacts (particularly to wetlands and riparian areas) that result and the amount of cut and fill areas that are required for additional width. Over 14 hectares (34 acres) of additional habitat take is required to accommodate the additional 2.4 meters (8 feet). In addition, the separate bike path alignment results in loss (due to fragmentation) of the habitat area between the bike path and the road. Other impacts include additional cuts and fills, erosion, and visual impacts.

## 5. Use Federal Funds for Maintenance and Repair

Park and Clear Creek Counties have already set aside maintenance funds for use in the upkeep of the road. Over the past years, the funds available for maintenance of the road have dwindled. The lack of maintenance has led to numerous problems on the road including a complete loss of the surface course and subbase materials (in some areas).

As discussed earlier in **Chapter I: Purpose and Need**, the FHWA funds for this project come from the Forest Highway Program. The Forest Highway Program provides federal funding for capital improvements of a special category of public roads that directly serve NF lands nationwide. The roadway system is on the Forest Highway Road system. Decisions for use of the federal funding that is allocated annually for the Forest Highway Program within Colorado are made jointly by the FHWA, the FS, and the CDOT (the program agencies).

Although federal funds can be used for the Guanella Pass Road reconstruction project, these funds cannot be used for the annual maintenance of the road. In accordance with CFR Title 23, the maintenance and control of the road remains the responsibility of Clear Creek County, Park County, and Georgetown.

## 6. Silver Plume Bypass Realignment

The project team considered several realignment options for the Georgetown terminus of Guanella Pass Road (for more information about the options studied see the *Guanella Pass Road, Georgetown Terminus Options Traffic Study*). The options studied included a realignment of Guanella Pass Road from the third switchback above Georgetown into Silver Plume. This realignment was eliminated from consideration because of significant impacts resulting from new construction through environmentally sensitive areas.

In addition, realignment options that bypass Georgetown have received substantial criticism from the Georgetown business community (see **Chapter II.F.9e-g**). The Georgetown business community has expressed concern over the negative economic impact the bypass would create. As a result, the Silver Plume Bypass Realignment was eliminated from further consideration.

## 7. Passing Lanes

The provision of passing lanes along Guanella Pass Road was considered but eliminated because of the additional environmental impacts (particularly to wetlands and riparian areas) that result and the amount of cut and fill areas that are required for the increased width. In addition, it is not the intention of this project to provide for a fast trip over the road or to promote or encourage higher speeds.

## 8. Sierra Club Alternative

The Rocky Mountain Chapter of the Sierra Club submitted a build alternative for consideration. This alternative does not widen any sections of Guanella Pass Road. This alternative rehabilitates the road in an attempt to mitigate current environmental problems and improve the roadway surface, materials, and drainage. 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. Many erosion, sedimentation, and some drainage problems are addressed. However, several existing drainage problems are not addressed because the existing ditches are narrow or non-existent in most areas, and would require reconstruction and widening to be installed.

The Sierra Club believes that the above proposal is a reasonable safety improvement considering the degree of environmental impacts associated with widening. However, the existing roadway width for those sections proposed for reconstruction under the build alternatives is already narrower than recommended AASHTO guidelines. The roadway width proposed in Alternative 6 is the minimum allowed under the FHWA Central Federal Lands Highway Division (CFLHD) guidelines for the level of traffic, and the minimum that is supported by the FS for reconstruction of this type of forest road (**Chapter II.D.4a-e**).

In accordance with 23 CFR Part 625.2, the FHWA is responsible for providing a facility that will “adequately serve the existing and planned future traffic of the highway in a manner that is conducive to safety, durability, and economy of maintenance...” It is not considered a wise investment of public funds to expend limited resources to perform road improvements that soon will become inadequate or inappropriate. Further reduction of the proposed width, resurfacing the road without widening the narrowest portions, or not correcting the most deficient alignment and geometric inconsistencies leaves un-addressed the most hazardous conditions of the road and may leave the Counties, FS, and the FHWA with a facility having many operational, maintenance, and safety liabilities.

Many of the environmental enhancements recommended as part of the Sierra Club Alternative are included in Alternative 6. These include slope stabilization, use of aesthetically appropriate retaining walls, revegetation of denuded areas, improving drainage, stabilizing roadway surfacing, and use of natural bottom culverts or bridges for fish and riparian wildlife passage. Alternative 6 provides the closest solution to the Sierra Club Alternative concerns while addressing much needed operational, maintenance and safety concerns. The Sierra Club Alternative was eliminated because it failed to adequately address these concerns.

## 9. Realignment Options Considered and Eliminated

During initial design studies, several realignment options were analyzed for improvements to Guanella Pass Road. As a result of environmental evaluation and discussion with cooperating agencies, the following realignment options were dropped from consideration.

## **9a. Realignment Option A: Duck Creek Realignment**

The Duck Creek Realignment is approximately 3.28 kilometers (2.04 miles) in length. This is the only major realignment proposed in Park County. This realignment leaves the existing alignment at approximately station 15+700. The realignment follows Duck Creek for approximately 0.5 kilometers (0.3 miles) at which point it shifts away from Duck Creek with a pair of switchbacks. The realignment passes the abandoned Geneva Basin Ski Area and rejoins the existing alignment near station 19+000 after two additional switchbacks.

The purpose of the Duck Creek Realignment is to avoid the unstable slopes along the existing route between station 16+300 and station 17+900. This area has some of the most severe ice flow, rockfall, and maintenance problems on the entire route. Extensive retaining walls, guardrail, and wider ditches for rockfall collection would be needed if the roadway were improved along the existing alignment in this area.

A major reason for this realignment is to remove the road from the rock slide area. The realignment, however, does not sufficiently remove it from the rockslide area and the hazardous condition remains. The roadway realignment crosses undisturbed woodlands, wetlands, and boreal toad habitat. The alignment encroaches on Duck Creek in some areas. This is a major issue since protection of the creek and the water resources is a key issue stated in the project objectives. As a result of these deficiencies, the Duck Creek Realignment was eliminated from further consideration.

## **9b. Realignment Option B: Upper Clear Creek**

The Upper Clear Creek Realignment is approximately 1.88 kilometers (1.17 miles) in length. This realignment leaves the existing alignment near station 23+200, just before the second set of switchbacks north of the summit. The realignment reestablishes these switchbacks in more favorable terrain, allowing for greater turning radii and more separation between the adjacent upper and lower segments of the switchbacks. The realignment parallels the existing alignment at a higher-grade beginning at the existing switchback located at approximately station 24+100. The realignment then runs above the existing alignment until approximately station 25+000, where it connects back to the existing roadway.

The purpose of the Upper Clear Creek Realignment is to provide a less severe set of switchbacks and avoid a snow slide/avalanche area. The FS has expressed concern over the impact the realignment has on key “old growth” forest and lynx habitats. It was determined that the additional impacts on the environment created by this realignment are unacceptable given the issue it is intended to resolve.

## **9c. Realignment Option D: Cabin Creek Realignment**

The Cabin Creek Realignment is approximately 1.87 kilometers (1.16 miles) in length. This realignment leaves the existing alignment at approximately station 30+100. The realignment then follows the east side of Lower Cabin Creek Reservoir, crosses over south Clear Creek below the dam, and ties into the existing alignment at approximately station 31+900. The Cabin Creek Realignment is paved.

The purpose of the Cabin Creek Realignment is to avoid the potentially hazardous, steep, and unstable existing cut slopes located along the existing roadway and to avoid interference with the power plant, power transmission lines, and other utilities.

This realignment came from the need to remove the existing alignment from an unstable slope. The roadway realignment sits at the bottom of an unstable slope. The Cabin Creek Realignment Option places the road in a shady area during the winter and may present a safety hazard. The roadway scar left by the existing alignment on the western slope near the Cabin Creek Reservoir will be visible from the realignment. In addition, the realignment crosses an important boreal toad migration corridor and impacts a big horn sheep use area. As a result of these deficiencies, the Cabin Creek Realignment was eliminated from further consideration.

#### **9d. Realignment Option E: Green Lake Bypass Realignment**

The Green Lake Bypass Realignment is approximately 1.86 kilometers (1.16 miles) in length. This realignment leaves the existing route at approximately station 32+400 and deviates to the east along Clear Lake. It proceeds northerly along the South Clear Creek drainage and rejoins the existing alignment at the northwest side of the switchbacks located at station 35+000.

The purpose of the Green Lake Bypass Realignment is to eliminate a set of sharp switchbacks north of Green Lake and to eliminate the portion of the existing alignment that passes less than a meter (a few feet) from the edge of Green Lake. The Green Lake Bypass Realignment is shorter than the existing alignment it bypasses.

The Green Lake Bypass Realignment crosses South Clear Creek two times and infringes on a popular waterfall location at the south end of the realignment. In addition, the realignment impacts boreal toad habitat. The protection of water resources and wildlife is a key issue stated in the project objectives. As a result of these deficiencies, the Green Lake Bypass Realignment was eliminated from further consideration.

#### **9e. Realignment Option Fa: Georgetown Side-Hill Bypass Realignment**

The Georgetown Side-Hill Bypass Realignment leaves the existing alignment at approximately station 38+700, crosses Clear Creek on a new bridge, and ties into Loop Drive on the outskirts of Georgetown, creating a bypass of downtown. The side-hill alignment lies around the front of a rock outcropping located at the second switchback above Georgetown. The alignment removes a portion of the rock. The alignment is approximately 0.46 kilometers (0.29 miles) in length.

The purpose of the bypass is to reduce the through traffic volume in downtown Georgetown, thereby easing congestion during peak periods. This is accomplished by providing an alternate route between the Interstate 70 frontage road and Guanella Pass Road. This alternate route allows drivers not wanting to stop in Georgetown to bypass the historic central business district.

The Side-Hill Bypass Realignment is visually intrusive to the character of the community due to highly visible cut slopes on Leavenworth Mountain. In addition, the bypass realignment has received substantial criticism from the Georgetown business community. The Georgetown business community has expressed concern over the negative economic impact the bypass would create. As a result, the Georgetown Side-Hill Bypass Realignment was eliminated from further consideration.

#### **9f. Realignment Option Fb: Georgetown Tunnel Bypass Realignment**

The Georgetown Tunnel Bypass Realignment leaves the existing alignment at approximately station 38+700, crosses Clear Creek on a new bridge, and ties into Loop Drive on the outskirts of Georgetown, creating a bypass of downtown. The tunnel alignment passes through a rock

outcropping located at the second switchback above Georgetown. The tunnel is approximately 137 meters (450 feet) long. The total realignment is approximately 0.42 kilometers (0.26 miles) in length.

The purpose of the bypass is to reduce the through traffic volume in downtown Georgetown, thereby easing congestion during peak periods. This is accomplished by providing an alternate route between the Interstate 70 frontage road and Guanella Pass Road. This alternate route allows drivers not wanting to stop in Georgetown to bypass the historic central business district.

The Tunnel Bypass Realignment is visually intrusive to the character of the community due to highly visible cut slopes on Leavenworth Mountain. In addition, the bypass realignment has received substantial criticism from the Georgetown business community. The Georgetown business community has expressed concern over the negative economic impact the bypass would create. As a result, the Georgetown Tunnel Bypass Realignment was eliminated from further consideration.

### **9g. Realignment Option Fc: Georgetown Through-Cut Bypass Realignment**

The Through-Cut Bypass Realignment of Georgetown leaves the existing alignment at approximately station 38+700 and ties into Loop Drive on the outskirts of Georgetown, creating a bypass of downtown. This option uses an open cut to go through the rock outcropping located at the second switchback above Georgetown. The cut slopes reach 32 meters (105 feet) high.

The purpose of the bypass is to reduce the through traffic volume in downtown Georgetown, thereby easing congestion during peak periods. This is accomplished by providing an alternate route between the Interstate 70 frontage road and Guanella Pass Road. This alternate route allows drivers not wanting to stop in Georgetown to bypass the historic central business district.

The Through-Cut Bypass Realignment is visually intrusive to the character of the community due to highly visible cut slopes on Leavenworth Mountain. In addition, the bypass realignment has received substantial criticism from the Georgetown business community. The Georgetown business community has expressed concern over the negative economic impact the bypass would create. As a result, the Georgetown Through-Cut Bypass Realignment was eliminated from further consideration.

### **9h. Realignment Option G: Naylor Creek Realignment**

The Naylor Creek Realignment is approximately 1.55 kilometers (0.96 miles) in length. It leaves the existing alignment near station 24+500 and curves around the west side of the Guanella Pass Campground. The realignment rejoins the existing alignment at approximately station 26+100. The realignment is paved if it is included in Alternatives 2, 4, or 5, and gravel if included in Alternatives 3 and 6.

The purpose of the Naylor Creek Realignment is to provide a safer intersection with Naylor Lake Road (the existing intersection is currently located on a severe bend in the road with minimal sight distance), reduce the grade of the road, eliminate three switchback curves, and unite the two halves of Guanella Pass Campground, which are currently bisected by the existing alignment.

The realignment also moves the road out of an area of wetlands that exist along the current alignment of road. However, the FS has expressed concern over the impact the realignment has on key forest and other wetland habitats. The FS indicates that “the proposed realignment will

result in new impacts to old growth forest, associated wetland and interior forest habitats (fragmenting and reducing). These impacts are in addition to already existing impacts that will remain in the vicinity of the (Guanella Pass) campground and along the existing road after being revegetated.” Because of these impacts, the Naylor Creek Realignment was eliminated from further consideration.

## **10. Temporary Construction Bypass Bridge**

A construction traffic only bypass bridge was considered between the Loop Road and the Georgetown switchbacks over Clear Creek. This bypass bridge would have been for construction traffic only and was intended to reduce the impact of the construction activities on the Town of Georgetown. However, this option was eliminated because the Town of Georgetown did not wish to pursue this option due to right-of-way concerns.

## **11. Material Sources**

Other material sources along Guanella Pass Road were considered but eliminated. Those include:

- Switchback near Naylor Lake – Eliminated because the quality of the material was inadequate.
- Private Property near Silverdale – Eliminated because of possible impacts to the watershed protection area and the viewshed of the GSPNHLD. Access to test the material at this site was denied.
- Oakley Recreation Area – Eliminated because of difficult access that would require reconstruction and additional impacts.

## **G. ISSUES FOR FINAL DESIGN**

An important consideration in the design of improvements to Guanella Pass Road is to maintain flexibility in decision making. Committing to specific final design elements early in the NEPA process limits future design considerations to the extent that future design cannot address different issues and concerns that may arise during the NEPA process and after the process has been completed.

### **1. Retaining Wall Design and Slope Treatments**

Portions of the roadway will require either retaining structures or cut slopes on the uphill side and retaining structures or fill slopes on the downhill side. Various methods exist for stabilizing cut and fill slopes. Most of these methods involve providing sufficient vegetation to control erosion. A cut slope or fill slope that is revegetated looks more natural than a retaining wall, but in most cases requires a greater amount of earth to be disturbed to create the slope. Although retaining walls can look unnatural in some cases, new types of walls have been created that blend in with the natural setting for a more aesthetic appearance. The retaining walls chosen for this project will comply with the FS VQO’s.

The switchbacks above Georgetown already have natural rock retaining walls that are about 2.4 to 3.0 meters (8 to 10 feet) high. To minimize the impact of cut slopes and blend with the



existing conditions, this area will use retaining walls extensively. In designing the retaining walls, the goal is to keep structures under 3.0 meters (10 feet) high.

Two important factors for the appearance of a retaining wall are the use of tiering (multiple walls) and the selected building materials. The benefit of tiering walls is that vegetation can be planted on the slopes in between, camouflaging the walls. The shorter walls also create a safer, more accessible environment for wildlife. Tiering, however, requires more of the land to be disturbed because the total slope is cut back farther. The benefit of a single structure is that the slope is not cut back excessively. However, a high single wall can detract from the visual quality of the area.

Cutside walls are more visible from the road than fillside walls. Fillside walls up to 4.0 meters (13 feet) in height can typically be screened with vegetation and therefore are less visible to users of the road. Because of their greater visibility, cutside walls normally require special considerations and more treatment to mitigate visual impacts. As a result, fillside walls tend to be less expensive than cutside walls.

Several options exist for materials used in the construction of retaining walls. The following options are under consideration.

### **1a. Concrete form-liners – stained**

This method involves the use of a form-liner inside a concrete retaining wall form. The form liner is in the shape of a natural-rock, masonry wall. Once the concrete inside the retaining wall form is set, the form and form-liner are removed to expose the simulated rock face. The simulated rock face is then stained to resemble a natural-rock, masonry wall. See Figure II-18.

### **1b. Modular blocks**

Modular blocks are similar to those used in landscaping. The blocks are layered to form the retaining wall. The modular block faces can be rough and colored to partially resemble a natural-rock, masonry wall. See Figure II-19.

### **1c. Dry-Stack**

This method involves the use of native, natural materials to create the retaining wall. Local material sources provide the large rock that is stacked to form the wall. The rocks are not mortared together, hence the term dry-stack. The dry-stack wall uses gravity to stay together and is typically wider at the base than at the top. The large rock is fitted together tightly using interlocking pieces with the front side typically more vertical than the back side. See Figure II-20.



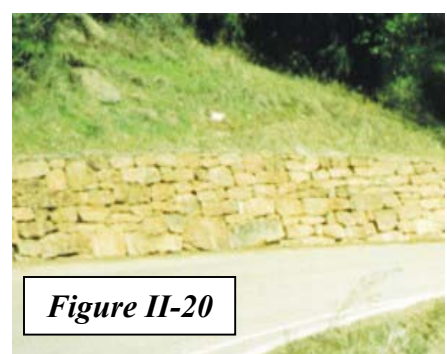
*Figure II-18*

*Form-liner, stained-concrete retaining wall*



*Figure II-19*

*Modular block retaining wall*



*Figure II-20*

*Dry-stack retaining wall*

### 1d. Stone façade – mortared rock

This type of retaining wall is built of concrete and faced with a real rock surface to give the appearance of a stacked rock or stone-mortar retaining wall. The concrete retaining wall is “veneered” with a layer of large rock that is mortared into place. This type of wall can be used instead of the stained, form-liner concrete wall mentioned above in areas where pedestrian traffic is heavy, because the stone façade retaining walls have an even more natural appearance. See Figure II-21.

### 1e. Shot-crete – sculpted and stained

The cut slope is covered with a wire mesh. The shot-crete is then sprayed into place over the wire mesh. The shot-crete material is then sculpted into the shape of a rock and stained to resemble a rock face. See Figure II-22.



*Figure II-21*

*Stone façade, mortared rock retaining wall*



*Figure II-22*

*Stained, sculpted shotcrete retaining wall*

## 2. Drainage Structures

Two drainage issues for the final design of the Guanella Pass Road project are related to the major stream crossings and the runoff from Leavenworth Mountain into Georgetown. These issues require more design than is available in the EIS process, but are important to address in at least a general way as part of the environmental considerations.

Specific water quality related issues that are of concern are addressed in **Chapter III.B.2a: Water Quality**. These sections address the concerns over drainage as related to sediment containment, erosion control, and Best Management Practices (BMPs) for each of the alternatives.

### 2a. Major Stream Crossings

The environmental setting of Guanella Pass Road provides habitat for many kinds of wildlife. The wetland, riparian, and creek channel areas are especially suitable for the livelihood of numerous waterfowl, fish, and other small aquatic life such as salamanders and toads. Each of the alternatives cross major drainages. Special consideration will be given to the design of the major stream crossings or any water channel that has continuous flow. The crossing structures will be oversized and have a natural bottom to facilitate the protection and passage of fish and other small aquatic life. In certain locations, the structures will provide a small pathway to allow small and medium-sized mammals to cross underneath the road.

## 2b. Runoff from Leavenworth Mountain

The runoff from Leavenworth Mountain, southwest of Georgetown, currently flows onto Guanella Pass Road and follows the alignment into Georgetown. The flow generally enters town at Second Street between Taos Street and Argentine Street and regularly floods the streets and adjacent properties. The Town of Georgetown has requested that the design of Guanella Pass Road include some drainage facilities that eliminate or reduce the amount of flow following the alignment into town.

If the Georgetown segments of the road are included in the selected alternative, the FHWA will provide a storm drain system between the third and fourth switchback above Georgetown (station 37+850 to 38+300) to intercept the runoff from Leavenworth Mountain. The design of the storm drain could be either a surface channel that collects water above ground (like a ditch system) or an underground culvert that collects water in storm drains and passes the water in a closed system to the outlet. The system design could include erosion control and permanent sediment collection facilities that require a maintenance commitment from the maintaining authority. Also, the Town of Georgetown has requested drainage capacity improvements to some existing streets (specifically, Rose Street and possibly Argentine Street) as part of the mitigation for construction vehicle impacts on town streets if construction traffic goes through town. This will include construction or repair of curbs and gutters or milling the existing pavement to restore drainage capacity.

## 3. Guardrail Design and Materials

The need for guardrail is based on the severity of roadside hazards and the risk of vehicles leaving the roadway. Key issues that will be considered for the selection of guardrail materials include location, sensitivity, cost and convenience of maintenance, and visibility. The guardrail design and materials proposed for this project will be in compliance with the FS VQO's.

The following options may be considered for guardrail. For the guardrails described in **3a**, **3b**, and **3c** below, located in gravel/alternative surface sections, a timber curb board will be included to reduce sediment runoff from the road.

### 3a. Timber beam, steel-backed

This type of guardrail has a timber beam facing with steel backing for strength. It has the disadvantage of greater installation costs and maintenance needs but the advantage of a rustic appearance. See Figure II-23.

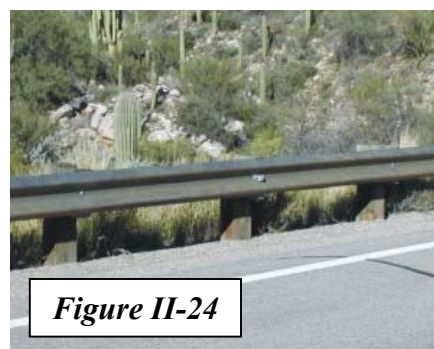


*Figure II-23*

*Timber beam, steel-backed guardrail*

### 3b. W-shaped steel beam – galvanized and acid-stained to darken

W-shaped steel beam guardrail is typically used for road construction projects. For this project, the w-shaped galvanized steel would be stained and darkened to create a dull, dark gray rather than shiny appearance. See Figure II-24.



*Figure II-24*

*Galvanized, acid-stained guardrail*

### 3c. W-shaped steel beam Cor-ten – corrosion-resistant steel

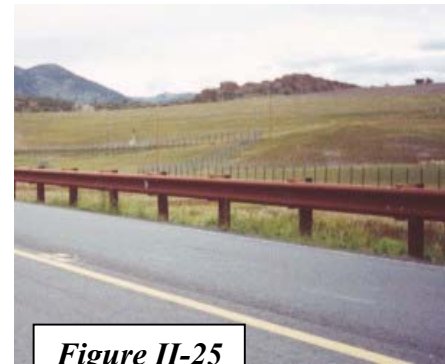
Cor-ten is corrosion-resistant steel that takes on a rust-colored appearance over time to create a more weathered and rustic appearance. See Figure II-25.

### 3d. Guardwall

This type of guardrail includes concrete with formliner and stain to simulate stone facing, or concrete with a natural stone veneer. It will be used in areas of especially high visual sensitivity such as the GSPNHL. This type of guardrail has the disadvantage of being extremely expensive. See Figures II-26 and II-27.

## 4. Other Design Issues

Other final design issues that are of consideration include interpretative signage, and the locations of pullouts and restrooms. These elements will take into consideration the Scenic Byway CMS for Guanella Pass Road. The final design of the roadway facilities will address the issues and recommendations of the approved plan to the maximum extent possible. All final design issues will be coordinated with the FS, Georgetown, and Clear Creek and Park Counties.



**Figure II-25**  
*Corrosion-resistant guardrail*



**Figure II-26**  
*Form-liner, stained concrete guardwall*



**Figure II-27**  
*Natural stone veneer guardwall*

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# III. Affected Environment and Environmental Consequences

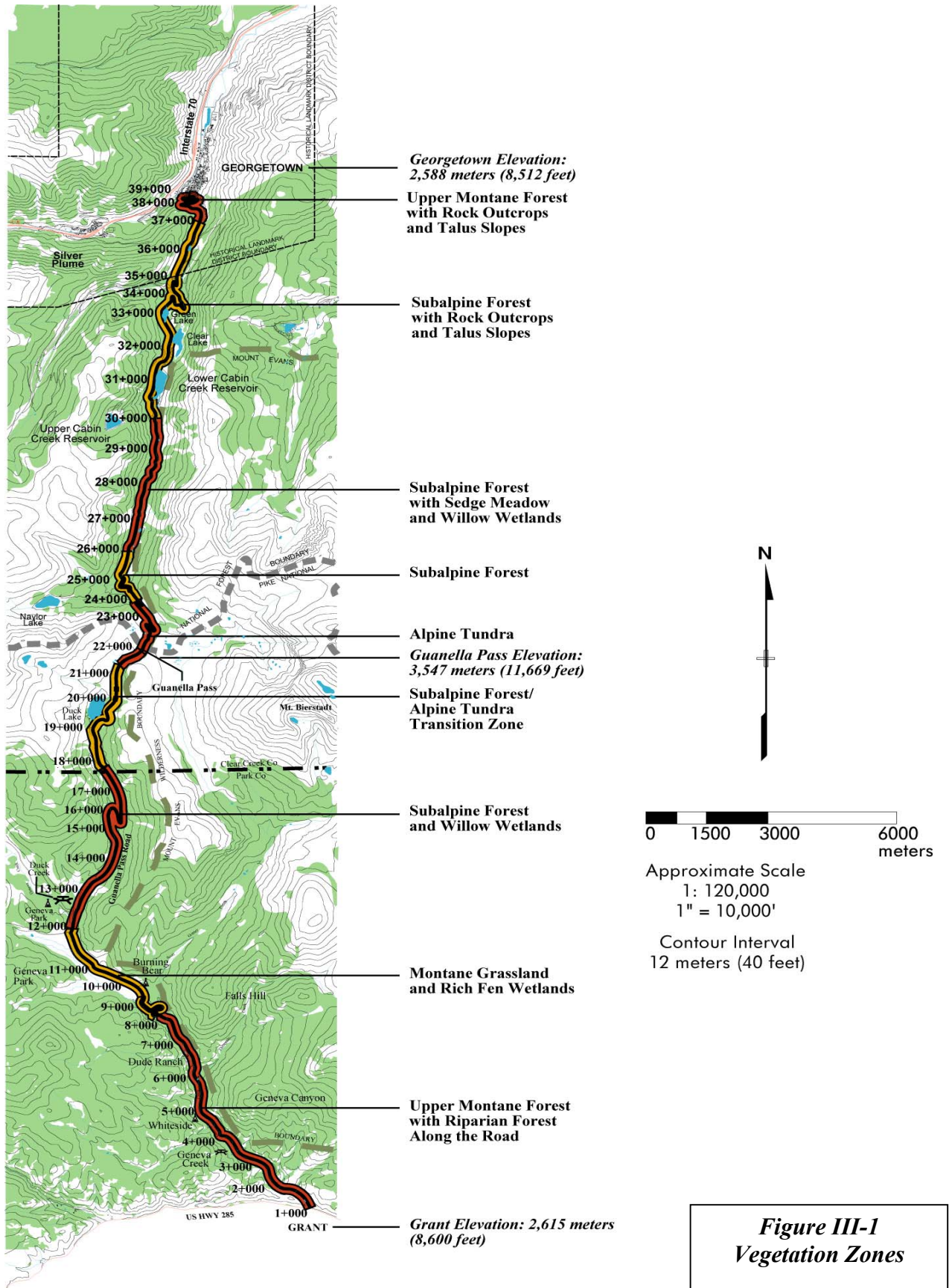
## A. INTRODUCTION

Guanella Pass Road crosses 38.2 kilometers (23.6 miles) of mountain terrain between the towns of Grant and Georgetown, Colorado. The corridor begins in Park County and ends in Clear Creek County. Guanella Pass Road passes through Pike NF and Arapaho NF and passes by the Mount Evans Wilderness Area. Elevations along the road range from approximately 2,615 meters (8,600 feet) at Grant to 3,547 meters (11,669 feet) at Guanella Pass and then descend to 2,588 meters (8,512 feet) at Georgetown. Approximately 18.3 kilometers (11.4 miles) of the existing roadway has a paved surface, and 19.7 kilometers (12.2 miles) has a dirt/gravel surface. The existing roadway width varies from approximately 5.5 meters (18 feet) to 7.2 meters (24 feet).

Figure III-1 shows the project corridor and vegetation zones. The first 8 kilometers (5 miles) of the road, north of Grant, pass through upper montane and riparian forest as the road follows Geneva Creek, a tributary of the North Fork of the South Platte River. As Guanella Pass Road crosses the south end of Geneva Park, it passes through a subalpine forest at the lower elevation limit of approximately 2,918 meters (9,600 feet). The road follows the eastern edge of Geneva Park for 3.2 kilometers (2 miles) passing between an extensive rich fen wetland and montane grassland before climbing into another subalpine forest. Between station 12+000 and station 19+000, the road crosses subalpine forest and willow shrublands along the Duck Creek drainage while gaining 426 meters (1,400 feet) in elevation. Wet meadows occur intermixed with extensive willow shrublands between an elevation of 3,100 meters (10,200 feet) and 3,162 meters (10,400 feet). At station 19+000, the road enters an ecological transition zone formed by the upper limits of the subalpine forest, and traverses alpine tundra between station 21+000 and station 24+000.

The drainage divide at Guanella Pass separates the Geneva Creek watershed to the south and the South Clear Creek watershed to the north. The road descends into the subalpine forest at station 24+000, at an elevation of 3,465 meters (11,400 feet). The road continues its descent through the subalpine forest to an elevation of 3,283 meters (10,800 feet) at station 25+000, at which point it reaches the South Clear Creek Valley floor. Beyond this point, the road parallels the valley floor, which supports a mosaic of sedge meadow and willow wetlands mixed with beaver ponds and stream habitat. The road crosses South Clear Creek at station 28+000 and again at station 29+000. From this point, the road continues along the western edge of the South Clear Creek Valley between station 30+000 and station 33+000, while passing through an area of development that includes Xcel Energy's Cabin Hydro Power Generating Station, reservoir, and associated power lines; Clear Lake; and Green Lake.

The road crosses rock and talus fields and mixed stands of subalpine forest while descending along the western edge of the valley from an elevation of 2,979 meters (9,800 feet) at station 33+000 to an elevation of 2,614 meters (8,600 feet) at station 39+000, the northern end of the route at Georgetown.



**Figure III-1  
Vegetation Zones**

Mule deer, elk, and bighorn sheep winter range is crossed by the first 4.8 kilometers (3 miles) of Guanella Pass Road, north of Grant. Subalpine forest and alpine tundra provide habitat for Rocky Mountain goats, which occupy higher elevations east and west of the road. Beaver, black bear, bobcat, mountain lion, and a variety of small and medium-sized mammals are common and occupy montane habitats in the vicinity of the road throughout the year.

Riparian forest, shrub stands, and cliffs along Geneva Creek provide nesting habitat for songbirds, waterfowl, and birds of prey (raptors). Upper montane and subalpine forests and meadows crossed by the existing road provide breeding habitat for songbirds, waterfowl, raptors, and blue grouse.

Guanella Pass Road is designated as a Colorado Scenic and Historic Byway by the CDOT and as a NF Scenic Byway. The project area has many scenic views that are readily visible from Guanella Pass Road and are enjoyed by many travelers. Some of the highlights within the area include the site of the old Silverdale mining camp, numerous lakes, cascading waterfalls, Mount McClellan, Mount Bierstadt, and the Sawtooth Range. Visitors travel on Guanella Pass Road year-round enjoying the beauty of the changing seasons. In the fall, yellow and gold aspen contrast sharply with dark evergreen trees and rugged rock outcrops. During winter, the road is surrounded by snowcapped peaks and deep snow banks. In the spring, mountain wildflowers and wildlife emerge. During the summer, waterfalls and wildlife may be viewed.

Figure III-2 is a photo of the Guanella Pass environment taken north of the pass, looking southeast.



*Figure III-2  
Mount Bierstadt and the Sawtooth Range*



There are many trails and historic wagon roads that are accessed from Guanella Pass Road. One of the most scenic routes accessible from the road is the Waldorf cutoff, which follows the Argentine Central Railroad roadbed to the top of Mount McClellan. From there, 176 mountain peaks are visible. These include Pikes Peak, Ouray Peak, Mount of the Holy Cross, Longs Peak, Mount Evans, and Mount Rosalie.

Details on existing conditions are found at the beginning of each section in this chapter. Both direct and secondary effects are included in the discussions of effect for each section where it is appropriate to do so. Direct effects result from the physical disturbance of construction. For example, direct effects include plant and tree removal, conversion of habitat, direct mortality by construction, construction noise, visual effects, nesting disturbance during construction, and reduced dust. Secondary effects are caused by increased traffic volume, higher speeds, and greater visitor use. Secondary effects include noise impacts (caused by increased traffic), increased roadkill, reduced sedimentation, economic impacts, effects to wildlife from increased dispersed recreation such as increased hunting and fishing pressure, habitat fragmentation, and area avoidance.

The evaluation of the impacts of the various Guanella Pass Road improvement alternatives was based on guidelines issued by the FHWA (Technical Advisory T6640.8A, 1987). The following impact categories were considered during the preparation of the FEIS:

- **Social Environment**
  - Community Character
  - Traffic Volumes
  - Population and Demographics
  - Local Economy
  - Land Use
  - Consistency with Local Plans
  - Cultural Resources
  - Traditional Cultural Properties
- **Water Resources**
  - Water Quality
  - Wetland and Riparian Communities
  - Other Waters of the U.S.
- **Visual Quality**
- **Recreational Resources**
  - Recreational Activities
  - Pedestrian and Bicyclist
- **Plants and Animals**
  - General Wildlife
  - Threatened, Endangered, and Sensitive Species
  - Management Indicator Species and Plant Communities
  - Fisheries
- **Construction Impacts**
  - General Construction
  - Construction Cost
  - Hauling
  - Materials Source Locations
  - Noise
  - Vibration
  - Traffic Delays
  - Economic Impacts
  - Reducing Construction Impacts
- **Other Resources**
  - Air Quality
  - Noise
  - Hazardous Materials
  - Section 4(f) Resources
  - Right-of-Way
  - Utilities
  - Floodplains
  - Farmlands
  - Environmental Justice Services
  - Maintenance Cost
  - Cumulative Impacts
  - Relationship of Local Short-Term Uses vs. Long-Term Productivity
  - Irreversible and Irretrievable Commitment of Resources
  - Permits and Approvals Required

Most of the following discussions are summaries of technical reports prepared for this project. These reports are referenced at the end of each discussion. A list of all technical reports prepared for this project is contained in **Chapter VI: Availability of Technical Reports**. Some of the information in the technical reports may differ from that presented in this document where project information, design, or analysis have been updated.

## **B. KEY ISSUES**

An extensive scoping process was undertaken for the Guanella Pass Road improvement project. During the course of the project, the scoping included a public survey, nine public meetings/hearings, public interviews, meetings with over 15 agencies, and a field survey. As a result of the scoping process, the project team identified the following six key issues for this project:

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

### **Social Environment:**

Members of the community have expressed concern over the potential impacts of the project. Their concerns focused on increased traffic volumes and speeds. The results of a community survey show that people came to live in the Guanella Pass area because of the area's natural beauty and historic character and that they do not want any of that to change. The respondents describe the community character as friendly, close-knit, and neighborly. Maintaining this character is important to many in the community. Some are concerned that Georgetown will lose some of its quaintness as a result of the improvements, and that the increased traffic will create problems including more crime, development, and noise. There are many historic sites within the Guanella Pass Road study area. The road traverses a historic landmark district at the Georgetown end. The selected alternative must minimize and mitigate any adverse impacts to the historic setting of the project area.

### **Water Resources:**

There are several reservoirs, lakes, and streams within the project area. The water supply for Georgetown, Grant, and surrounding communities is also located within the project area. Streams and water bodies in the project corridor offer varying degrees of recreational opportunity from fishing to the quiet setting of a mountain creek. The water resources also provide a variety of habitats for fish, birds, and plants. Improving the existing quality of water is a high priority.

### **Visual Quality:**

Guanella Pass Road is designated a Scenic and Historic Byway. The project area is known for its beauty. A major portion of the corridor parallels the western boundary of the Mount Evans Wilderness Area and provides scenic views of Mount Bierstadt and the Sawtooth Ridge. In addition, Guanella Pass Road traverses meadows of wildflowers and stands of conifer and aspen trees. Bighorn sheep, elk, and deer may be seen along the roadside throughout the corridor.

Ptarmigan can be spotted from the road at the alpine elevations. Improvements made to the corridor must retain the high scenic quality, and minimize and mitigate negative visual impacts.

### **Recreational Resources:**

The majority of Guanella Pass Road passes through NF lands. This area is very popular for a variety of recreational activities including hiking, horseback riding, picnicking, camping, fishing, and viewing scenery and wildlife. Within the project area there are five campgrounds and three picnic grounds. Three major trailheads lead into the Mount Evans Wilderness Area. Several lakes and streams within the area provide fishing opportunities. Over 90 percent of trips on Guanella Pass Road are for recreational purposes. There are a number of mountain bike trails that access backcountry areas outside the Wilderness boundary. Recreational resources within the project corridor are an important component of the character and value of the area.

### **Plants and Animals:**

The private and NF lands crossed by Guanella Pass Road and the adjacent water bodies provide habitat for a wide range of animals, birds, and fish as well as a variety of rare plants. Among these are several species listed as sensitive by the FS. The plants and animals are vital to the nature and wildness of the area and are to some people a primary reason for visiting the area. The FHWA is committed to taking all practical steps to minimize and mitigate impacts to the wildlife resources.

### **Construction Impacts:**

The communities that inhabit the Guanella Pass project corridor have expressed concern over the impacts the construction will have on the sensitive environmental qualities of the area. This includes the historic district in Georgetown and Silver Plume, the Mount Evans Wilderness Area, the forest recreational opportunities, and wildlife in general. This FEIS evaluates the possible impacts associated with noise and vibration, traffic delays, material hauling and material source sites, and suggests ways to reduce such impacts resulting from construction activities.

## **1. Social Environment**

Social impacts are changes in the social conditions in the project area attributable to the project. Social impacts relate to the citizens' attitudes, beliefs, and values. Gradual changes to a community are inevitable and are usually due to the growth and development of the community and that of nearby cities and towns.

### **1a. Community Character**

#### *Affected Environment*

One of the main social elements of a community is the local perception of community character. Community character provides members a sense of identity and belonging. During the preparation of the DEIS, a survey was given to people within the Guanella Pass area to understand their perceptions regarding community character. The survey revealed that when people move to the Guanella Pass area, they tend to stay. The average length of residency for those living in Georgetown was 18 years. The average length of stay for residents along Guanella Pass Road was 20 years.

In the *Community Impact Survey Report* (MK Centennial, 1996), the participants' descriptions of the local community character focused on four elements. These elements consist of: 1) the unspoiled quality of the nearby natural resources; 2) the quaint, "small-town" nature of the area that provides for a close-knit and neighborly atmosphere; 3) the peace and quiet of the area; and 4) the historic resources along Guanella Pass Road and in Georgetown.

### ***Environmental Consequences***

In the *Community Impact Survey Report*, many of the participants were concerned that if Guanella Pass Road were improved the community character would experience long-term impacts in a number of ways. Of primary concern was that the road improvements would make the area more attractive to tourists and recreational users, thereby increasing the use of the area. Most of the participants expressed the concern that this increase in use would impact the above four elements of community character in the following ways:

- A number of the participants believed that the increased use would spoil nearby natural resources through increased pollution and damage to wildlife and habitats.
- Most of the participants expressed concern that the "small-town" nature of the area would disappear and be replaced by overcrowding, commercialization and development, and an increase in crime.
- Some stated that the peace and quiet would eventually be lost to the noise and pollution of traffic congestion caused by too many tourists coming to visit the area.
- Many participants also expressed concern that there would be more trash and damage to the historic as well as natural resources along Guanella Pass Road.

Comments received on the DEIS and the SDEIS also expressed concerns regarding short-term impacts to the community character resulting from construction activities. There is concern that construction hauling through Georgetown would exacerbate already crowded streets in the summer, that vibrations created by the construction trucks would damage the historic structures in Georgetown, and that construction trucks traveling through Georgetown's historic setting would diminish the historic and quaint character of the town.

Others expressed concerns that construction of the road itself would diminish the peace and quiet of the nearby recreational and wilderness areas as well as frighten wildlife from the area.

While not all participants perceived the proposed Guanella Pass Road improvements to result in negative effects, the perceived positive effects focused more on economic benefits, less dust, and improved safety rather than on any positive effects to the community character.

Since all of these concerns are based on increased use, the analysis of effects will focus on the increase in traffic. The effects analysis regarding community character is separated into short-term (construction-related) and long-term (post-construction) impacts.

## Alternative 1

### *Long-Term Effects to Community Character*

Although Alternative 1 (the No Action Alternative) consists of no improvements being made to Guanella Pass Road, there is still projected to be a 56 percent increase in traffic over year 1995 values by the year 2025. This projected growth is due to projected population increases in the Denver metropolitan area and along the front range of Colorado. As a result, even if Guanella Pass Road remains unimproved, there will still be an increase in traffic that could affect the community character in the ways discussed above. Due to the lack of formalized parking along the road, traffic congestion could become a greater problem given that there are few barriers preventing people from parking along the roadside. Based on this 56 percent increase in traffic, future associated traffic noise levels are estimated to increase by between one and three decibels within 30 meters (98 ft) of the road.

### *Short-Term Effects to Community Character*

There would be no short-term impacts resulting from Alternative 1 given that there would be no construction for this alternative.

## All Build Alternatives

### *Long-Term Effects to Community Character*

Alternatives 2, 4, and 5 are projected to cause an additional 40 to 80 percent increase in traffic at the Pass over the year 2025 No Action Alternative projected increase. For Alternative 3, traffic at the pass is projected to increase 35 percent over the year 2025 No Action Alternative. Given the reduction in roadway design, Alternative 6 is projected to have the least amount of traffic increase, 20 percent, over the year 2025 No Action Alternative projected increase at the Pass. For further information on traffic projections please see **Chapter III.B.1b: Traffic Volumes**.

It is likely that all of the above projected traffic increases would impact the existing traffic conditions in the Town of Georgetown. It should be kept in mind that the majority of the increase in traffic over 1995 levels occurs regardless of whether improvements are made to Guanella Pass Road. Alternative 6 would have the least amount of additional impact on traffic congestion given that it is projected to have the least amount of traffic increase over the year 2025 No Action Alternative. Based on the Town of Georgetown's request, the FHWA plans to construct a bridge on Seventh Street over Clear Creek between Argentine and Brownell Streets. While the primary purpose for this bridge is to accommodate construction hauling traffic, the bridge also is a part of *The Town of Georgetown Comprehensive Plan (2000)* to help improve regular traffic flow and relieve visitor traffic congestion within the Town. For further information on this proposal please see **Chapter III.B.6c: Hauling**.

Though there would be more traffic on Guanella Pass Road, the reconstructed road is designed to better accommodate the projected increase in traffic. The proposed parking areas and the road are designed to minimize congestion on the road and in the recreational areas by controlling the number of vehicles that may park in specific areas and preventing individuals from parking on the road shoulder.

Based on the projected increase in traffic, noise associated with the increase in traffic is estimated to increase for Alternatives 2, 4, and 5 by between three and five decibels within 30 meters (98 ft) of the road. For Alternatives 3 and 6, projected increases in traffic noise ranges between one and three decibels. Increases for Alternatives 3 and 6 are, in general, no different than what is expected for Alternative 1. None of the decibel increases for Alternatives 2 through 6 cause the total noise levels associated with the projected traffic levels to exceed 57 decibels, the level set by the FHWA as the criteria to implement noise reduction for lands on which “serenity and quiet are of extraordinary significance.” For further information see *Construction Noise Report for the Guanella Pass Road Improvement Project* (Hankard Environmental, November 2001).

Other long-term effects resulting from an increase in traffic (increased damage to wildlife, habitats, and ecosystems; more trash; more crime; more development), depend on a variety of factors, not just improvements made to the road. Such factors include, but are not limited to, local zoning ordinances, budgets, local and Federal land management policies, and the effectiveness of local law enforcement. Because these factors lie outside of the FHWA’s jurisdiction and many of them depend on unknown future circumstances (legislation, funding), the FHWA is unable to objectively quantify or subjectively discuss these effects in any meaningful way.

#### *Short-Term Effects to Community Character*

Construction activities will have a short-term impact to the perceived community character. Large, heavy, mechanized equipment required to perform the improvements proposed in any of Alternatives 2 through 6 would be out of character with the typically rustic and rural nature of the roadway. In general, operation of such machinery will create noticeable increases in noise levels on lands less than a mile from the construction activities. As a result, users of recreational areas within a mile of the construction activities will most likely hear construction noise. Noise levels range from generally audible to not noticeable depending on the construction activity being performed, the existing noise levels, and the surrounding vegetation. The noise and human activity at the construction sites may cause some wildlife species to avoid the area for the duration of the construction. For further information see *Construction Noise Report for the Guanella Pass Road Improvement Project* (Hankard Environmental, November 2001).

Construction hauling through the Town of Georgetown may contribute to an increase in traffic congestion during road construction activities. Alternative 2 is anticipated to have the greatest amount of construction traffic hauling through the Town of Georgetown and Alternative 6 is anticipated to have the least amount of construction hauling traffic. To minimize construction hauling impacts to the Town’s community character, the FHWA has identified two material sources along Guanella Pass that will be used to supply most of the needed aggregate for the project. Use of these material sources reduces the number of truck trips through the Town of Georgetown by over half. For more information on material source sites please see **Chapter III.B.6d: Materials Source Locations.**

The FHWA had also proposed a temporary construction bypass bridge to route construction traffic around a large portion of the Town of Georgetown’s residential and business districts. Due to ROW concerns Georgetown rejected this proposal. Instead, the Town of Georgetown requested that the FHWA consider directing the remaining construction truck traffic over a new bridge on Seventh Street, to be constructed by the FHWA, and then route traffic up either Rose or Argentine Street depending on the size of the vehicle. The proposed permanent bridge is

included in Georgetown's Comprehensive Plan. Based on preliminary field reviews of the proposed bridge location, the FHWA believes that this is a feasible option and plans to pursue this haul route.

Based on the concerns expressed by Georgetown residents and businesses, the FHWA conducted a vibration study in October 2001 to determine the severity of vibrations that would be produced by fully loaded construction trucks, and to assess whether these vibrations would have any effect on the historic structures in Georgetown. Based on this study it was determined that fully loaded construction trucks did not produce vibrations severe enough to adversely impact the structural integrity of the historic structures. For further information refer to the report *Nondestructive Testing Investigation – Vibration/Noise Measurement Study – Construction Traffic Through Historic District, Georgetown, Colorado* (Olson Engineering, October 3, 2001).

## **1b. Traffic Volumes**

### *Affected Environment*

Existing traffic volumes along Guanella Pass Road were recorded between August 1994 and August 1995. Because of its primarily recreational use, Guanella Pass Road receives most of its traffic between Memorial Day and aspen leaf viewing season in the fall. These traffic volumes are expressed in weekend SADT. The weekend SADT is the average number of vehicles traveling the road over a weekend summer day. The 1995 weekend SADT south of Georgetown was 1,100 vehicles per day. The non-seasonal (winter) traffic volumes were approximately 75 percent lower than the seasonal traffic volumes.

### *Environmental Consequences*

#### Alternative 1

Due to the continued population growth of the Front Range and surrounding areas, traffic volumes along the length of Guanella Pass Road are expected to increase approximately 56 percent over 1995 traffic volumes by the year 2025 if Alternative 1 (the No Action Alternative) is selected. This increase assumes a 1.5 percent annual growth rate<sup>1</sup>.

#### Alternatives 2, 4, 5

Alternatives 2, 4, and 5 all involve reconstructing and paving either most or all of the road, and thus the effects on traffic volumes are assumed to be similar for all three alternatives. A review of historic traffic data on similar roads indicated that traffic increases at the summit due to Alternatives 2, 4, or 5 will range between 40 and 80 percent over the No Action levels in the year 2025. This increase in traffic traveling to the summit will obviously be experienced on other portions of the road.

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<sup>1</sup> The traffic volume projection was updated for the FEIS. New information for the analysis indicated that the reasonable annual growth rate on roads similar to Guanella Pass Road had dropped from 3.0 percent per year to 1.5 percent per year.

### Alternative 3

The improvements to the roadway for Alternative 3 will increase the traffic volumes at the summit over the No Action levels by 35 percent in the year 2025.

### Alternative 6

The improvements to the roadway under Alternative 6 increase traffic volumes over the future (year 2025) No Action levels by approximately 20 percent at the summit. Though Alternative 6 has more paved roadway than Alternative 3, the projected increase in traffic is less due to a significant decrease in the amount of reconstruction and reduced design standards associated with Alternative 6.

A summary of traffic volumes along Guanella Pass Road is shown in Table III-1<sup>2</sup>. This table shows volumes for 1995 as well as the year 2025 values for Alternative 1; the low and high-end estimate (40 and 80 percent increase over year 2025 No Action volumes at the pass, respectively) for Alternatives 2, 4, and 5; Alternative 3 (35 percent increase over the year 2025 No Action volumes at the pass); and Alternative 6 (20 percent increase over the year 2025 No Action volumes at the pass). All volumes in this table represent the weekend SADT.

**Table III-1**  
**Guanella Pass Road Weekend Seasonal Average Daily Traffic (SADT)**

Count Location	1995	Alternatives - Year 2025				
		Alternative 1 (No Action) Traffic	Alternatives 2, 4, & 5 Traffic		Alternative 3 Traffic	Alternative 6 Traffic
			LOW	HIGH		
North of Grant	730	1,140	1,355	1,565	1,325	1,245
South of Guanella Pass	340	530	745	955	715	640
North of Guanella Pass	690	1,080	1,510	1,940	1,455	1,295
South of Georgetown	1,100	1,720	2,150	2,580	2,095	1,935

*Source: Guanella Pass Road Traffic Study, Technical Memorandum, Traffic Volume Projections, MK Centennial, September 2001.*

Increases in traffic for the count locations “North of Grant” and “South of Guanella Pass” were based on projected traffic increases over the No Action Alternative at the count location “South of Guanella Pass”. Increases in traffic for the count locations “South of Georgetown” and “North of Guanella Pass” were based on projected traffic increases over the No Action

<sup>2</sup> The year 2025 traffic volumes for the build alternatives are calculated according to the following example for Alternative 3:

$$\text{Year 2025 Alternative 3 Traffic Volume} = [\text{2025 No Action volume at count location}] + [(35\%)(\text{2025 No Action volume at North/South location at Pass})]$$

So, for the count location directly South of Georgetown:  
2095 = [1720] + [(35%)(1080)]



Alternative at the count location “North of Guanella Pass”. For a more detailed explanation as to how these projected traffic increases were estimated please refer to the *Guanella Pass Road Traffic Study, Technical Memorandum, Traffic Volume Projections* (MK Centennial, September 2002).

## **1c. Population and Demographics**

### ***Affected Environment***

The population and demographics of a project area help determine the impact a particular project has upon the community. Table III-2 contains the past and projected populations for Georgetown, Clear Creek County, and Park County.

According to the year 2000 U.S. Census, Park County ranked fifth and Clear Creek County ranked 544th in terms of the highest percentage increase in population in the United States.

Between the years 1960 and 2000, populations of Georgetown and Clear Creek County have increased by 254 percent and 234 percent, respectively. The population of Park County has also increased rapidly, with a 697 percent increase between the years 1960 and 2000.

Population forecasts by the Colorado Division of Local Government show a 23 percent increase in the population of Clear Creek County between the years 2000 and 2010, and a projected 32 percent increase between the years 2010 to 2020. Corresponding figures for Park County show a 155 percent increase from the years 2000 to 2010, and a 127 percent increase from the years 2010 to 2020. These are higher than the corresponding figures for the entire state of Colorado, which are 20 percent for the years 2000 to 2010, and 17 percent for the years 2010 to 2020.

Demographics reveal that the region around Guanella Pass Road is predominantly Caucasian and English speaking. People with ethnicity other than Caucasian make up approximately six percent of the total population. Persons with a mobility or self-care limitation make up less than one percent of the population. The median age in Georgetown is 38.9 years, with 15.3 percent of the population below the age of 15 and 8.2 percent of the population above the age of 65. Of the adult population, 95.4 percent have a high school diploma and 25.4 percent hold a bachelor’s degree or higher. In 1989, the median household income was \$25,484.

### ***Environmental Consequences***

Because Guanella Pass Road extends through primarily federally owned and managed lands, improving Guanella Pass Road is not expected to increase the population of Georgetown, Clear Creek County, or Park County above the current projections. **Chapter III.B.1e: Land Use** details the land ownership and use along the project corridor. None of the alternatives have an impact that is more severe or less severe (as compared to impacts on the community as a whole) on the elderly, any specific ethnic group, people living under the poverty level, or persons with a mobility or self-care limitation.

**Table III-2  
Population – Past and Projected**

Year	Georgetown		Clear Creek County		Park County		Statewide
	Pop.	% Change	Pop.	% Change	Pop.	% Change	% Change
1960	307	N/A	2,793	-15%	1,822	-3%	32%
1970	542	77 %	4,819	73 %	2,185	20%	26%
1980	830	53 %	7,308	52 %	5,333	144%	31 %
1990	891	7 %	7,619	4 %	7,174	35 %	14 %
1995	944 (1994)	12%	8,313	9%	9,558	33%	16%
2000	1,088	15%	9,322	12%	14,523	52%	13%
<b>Projected Population</b>							
2005	N/A	N/A	10,272	10%	23,629	63%	10%
2010	N/A	N/A	11,482	12%	37,004	57%	9%
2015	N/A	N/A	13,162	15%	56,470	53%	9%
2020	N/A	N/A	15,098	15%	83,873	49%	8%

*Source for Projected Population: Department of Local Affairs, Division of Local Government.  
N/A: Not Available  
Note: Data in table has been updated since the DEIS to reflect the year 2000 census information.*

## 1d. Local Economy

### *Affected Environment*

Since the decline of the mining industry, many residents of Park County and Clear Creek County commute outside the county for employment. This is illustrated by comparing the size of the labor force with the number of jobs. In 1993, Clear Creek County had 0.52 jobs for every person in the labor force. The job shortage was more pronounced in Park County which had only 0.24 jobs for every person in the labor force.

In Park County, the primary employment opportunities are in government (49.4 percent), retail trade (17.2 percent), and services (14 percent). In Clear Creek County, the employment base is comprised of retail trade (27 percent), government (23 percent), mining (20 percent), and services (18.5 percent). Table III-3 shows the distribution of employment for Park County and Clear Creek County.

Park County and Clear Creek County remain well below the state in gross sales activity per capita. Table III-4 shows the gross sales per capita for Park County, Clear Creek County, and the State of Colorado. Gross sales per capita is gross sales divided by total population. This value measures the volume of sales activity relative to the number of residents; it is one indicator of the depth of business activity in a community. Comparing percentage growth of sales activity per capita from 1980 to 2000, Clear Creek County experienced a 166 percent growth, whereas the state grew by 119 percent, and Park County grew by 76 percent.

**Table III-3**  
**Employment by Type of Work for Park and Clear Creek Counties - 1993**

Type of Employment	Park County		Clear Creek County	
	Number	Percent of Total	Number	Percent of Total
Retail Trade	200	17.2 %	693	27 %
Government	573	49.4 %	588	23 %
Mining	N/A	N/A	485	20 %
Services	164	14 %	470	18.5 %
Transportation, Communication, and Utilities	19	1.6 %	76	3 %
Wholesale Trade	10	1%	60	2.4 %
Finance, Insurance, and Real Estate	20	1.7 %	40	1.6 %
Construction	107	9.2 %	21	1 %
Manufacturing	40	3.4 %	62	2.4 %
Total Employment	1,161	100 %	2,535	100 %

*Source: Colorado Department of Labor and Employment*  
*N/A: Data is not available because of disclosure laws.*

**Table III-4**  
**Gross Sales per Capita**

Location	2000	1990	1980
Park County	\$5,655	\$4,455	\$3,217
Clear Creek County	\$16,163	\$9,569	\$6,085
State of Colorado	\$29,662	\$19,009	\$13,558

*Source: Colorado Department of Revenue*

Georgetown is the county seat of Clear Creek County. The resident population of Georgetown was 1,088 in 2000 (12 percent of Clear Creek County's population). The five largest employers are Clear Creek County Government, Georgetown Loop Railroad, Swiss Inn Restaurant, Super 8 Motel, and the Town of Georgetown.

The community of Grant, population 15, is in unincorporated Park County. The business district is located on U.S. Highway 285 and consists of two taverns, a restaurant, and a general store.

The community of Bailey is located 18 kilometers (11 miles) east of Grant on U.S. Highway 285. Several general stores, service stations, gift shops, restaurants, a lumber yard, health center, two printers, two newspapers, and a county service center with a library are located in Bailey.

### ***Environmental Consequences***

Several potential enhancements to the economies of Georgetown, Grant, and Bailey could occur if Guanella Pass Road is improved. Additional visitors to area communities create increased taxable retail sales, increased employment, expanded recreational services, and more year-round visitor activity. Additional visitors also present potential problems to local economies in the form of increased traffic congestion and use of limited parking areas. These factors may discourage the use of local businesses.

Effects to the local economy are focused around the expected increase in traffic in the area. Impacts from additional traffic include both visitors that pass through the communities and those that stop.

Table III-5 shows the estimated ADT volumes traveling through Georgetown and Grant for Alternatives 1-6. The economic analysis assumes the traffic volume increases over no action at the pass to be 80 percent for Alternatives 2, 4, and 5 (the 40 percent increase is omitted for brevity); 35 percent for Alternative 3; and 20 percent for Alternative 6.

Traffic projections during the aspen viewing season are included in the analysis to show the large increase in visitor traffic during the peak season. The traffic increase estimates listed in Table III-5 are based on percent increases over existing volumes. The existing volumes were determined through the use of automatic traffic counters placed along Guanella Pass Road during 1994 and 1995.

**Table III-5**  
**Estimated ADT Volumes**  
**Traveling Through Communities As a Result of Guanella Pass Road -Year 2025**

	2025 No Action ADT	Alternatives 2, 4, & 5 (High Estimate)	Alternative 3	Alternative 6
<b>Grant/Bailey</b>				
<i>Summer Season</i>				
Weekday	461	605	524	497
Weekend	1,141	1,566	1,327	1,247
<i>Winter Season</i>				
Weekday	133	189	157	147
Weekend	305	461	373	344
<i>Aspen Viewing Season*</i>				
Weekday	696	1,033	843	780
Weekend	3,532	5,714	4,487	4,078
<b>Georgetown</b>				
<i>Summer Season</i>				
Weekday	680	968	806	752
Weekend	1,719	2,582	2,097	1,935
<i>Winter Season</i>				
Weekday	211	249	227	220
Weekend	445	583	506	480
<i>Aspen Viewing Season*</i>				
Weekday	1,305	1,536	1,406	1,363
Weekend	6,127	7,196	6,595	6,394

*Sources: Guanella Pass Road Colorado Forest Highway 80 Economic Impacts Technical Memorandum, March 1997; Addendum to Guanella Pass Road Colorado Forest Highway 80 Economic Impacts, September 2002; and Guanella Pass Year 2025 Traffic Projections Technical Report.*

*\* The forecast year 2025 aspen viewing season traffic projections shown here were estimated using methodology established for forecasting volumes for the rest of the year. However, traffic patterns during aspen viewing season are not typical of patterns during the rest of the year so estimates may be less accurate.*

Traffic volumes shown in Table III-5 are converted into traffic stopping in the communities based on a 1994 survey of drivers on Guanella Pass Road. Results of the survey indicate that in the year 2025, 47 percent of all traffic would stop in Georgetown, nine percent would stop in Grant, and five percent would stop in Bailey. Applying these percentages to the traffic projections from Table III-5 results in the values for visitor traffic stopping in each community shown in Table III-6.

**Table III-6**  
**Estimated Number of Vehicles Per Day**  
**Stopping in Communities As a Result of Guanella Pass Road, Year 2025**

	2025 No Action	Alternatives 2, 4, & 5 (High Estimate)	Alternative 3	Alternative 6
<b>Grant</b>				
<i>Summer Season</i>				
Weekday	41	54	47	45
Weekend	103	141	119	112
<i>Winter Season</i>				
Weekday	12	17	14	13
Weekend	27	41	34	31
<i>Aspen Viewing Season*</i>				
Weekday	63	93	76	70
Weekend	318	514	404	367
<b>Bailey</b>				
<i>Summer Season</i>				
Weekday	23	30	26	25
Weekend	57	78	66	62
<i>Winter Season</i>				
Weekday	7	9	8	7
Weekend	15	23	19	17
<i>Aspen Viewing Season*</i>				
Weekday	35	52	42	39
Weekend	177	286	224	204
<b>Georgetown</b>				
<i>Summer Season</i>				
Weekday	320	455	379	353
Weekend	808	1,214	986	909
<i>Winter Season</i>				
Weekday	99	117	107	103
Weekend	209	274	238	226
<i>Aspen Viewing Season*</i>				
Weekday	613	722	661	641
Weekend	2,880	3,382	3,100	3,005
Sources: Guanella Pass Road Colorado Forest Highway 80 Economic Impacts Technical Memorandum, March 1997 and Addendum to Guanella Pass Road Colorado Forest Highway 80 Economic Impacts, September 2002.				
* The forecast year 2025 aspen viewing season traffic projections shown here were estimated using methodology established for forecasting volumes for the rest of the year. However, traffic patterns during aspen viewing season are not typical of patterns during the rest of the year so estimates may be less accurate.				

Increased visitor traffic raises the potential to capture additional retail dollars. Based on average vehicle occupancy (2.7 persons<sup>3</sup>) and the average amount a person spends on retail purchases (\$15.77), the daily retail expenditure per vehicle is \$42.58. Multiplying \$42.58 in daily retail expenditures per vehicle by the number of cars stopping in Georgetown, Grant, and Bailey (from Table III-6) provides a forecast of the daily taxable retail sales for each local economy, as shown in Table III-7. Increased sales activity creates opportunities for new retail shops, restaurants, gas stations, and lodging establishments to develop new jobs.

Deterrents to the growth of the economies of Georgetown, Grant, and Bailey could also occur if Guanella Pass Road is improved. These deterrents could include traffic congestion and limited parking in the communities or on Guanella Pass that discourage vehicles from stopping and supporting local businesses.

Table III-6 (shown previously) presents forecast increases in vehicles stopping in Georgetown, Grant, and Bailey. These increases may create seasonal parking problems during the high-visitor months of June through September. According to local officials in Georgetown, currently the downtown business district provides sufficient parking, with approximately one space per 28 square meters (300 square feet) of commercial activity. Overflow parking is required three times during the year: 4th of July, aspen viewing season, and Christmas Market. During these special events, buses are used to transport visitors to and from off-site parking locations.

The Georgetown Planning Commission is concerned with current traffic flow problems at certain locations within the downtown area. Their position is that, if Guanella Pass Road is improved and paved, a bypass route would be required to divert through traffic around downtown Georgetown. Numerous bypass routes were evaluated during the course of the project, and none were considered desirable by the local community. As a result, they were dropped from further consideration (see **Chapter II.F.9: Realignment Options Considered and Eliminated**).

The project could also impact business at the dude ranch located along Guanella Pass Road. A survey of 14 members of the Colorado Association of Dude and Guest Ranches was completed to help assess the potential impact that improvements to Guanella Pass Road will have on the dude ranch located along the road. Half of the ranches surveyed are located on paved roads and half on unpaved roads. The survey revealed the following:

- No difference exists between the occupancy rates of those guest ranches located on paved roads and those on unpaved roads.
- An equal number of ranches located on paved and unpaved roads use the public rights-of-way for ranch activities.
- Of the ranches located on paved roads, 86 percent stated that the current road conditions were a positive aspect of their business.
- Of those ranches located on unpaved roads, 29 percent said that the current road conditions are a positive aspect of their business because the road is well maintained, 29 percent said it

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<sup>3</sup> Based on the 1993 Longwood Travel USA Study, the average vehicle occupancy for Denver is 2.7 persons. The average visitor spends \$50.88 (1995 dollars) per day with 31 percent in retail purchases.

was a negative aspect of their business because the road is dangerous and not well maintained, and 42 percent said the current road conditions do not impact their business.

- Three of the ranches surveyed were experiencing construction on the road to their ranch at the time of the survey. None of the three had experienced any negative impacts, mainly due to the fact that the guests make their reservations well in advance.

**Table III-7**  
**Estimated Daily Taxable Retail Sales for Each Community as a Result of Guanella Pass Road, Year 2025\***

	Year 2025 No Action \$	Alternatives 2, 4, & 5 (High Estimate) \$	Alternative 3 \$	Alternative 6 \$
<b>Grant</b>				
<i>Summer Season</i>				
Weekday	1,767	2,318	2,008	1,905
Weekend	4,373	6,001	5,085	4,779
<i>Winter Season</i>				
Weekday	510	724	602	563
Weekend	1,169	1,767	1,429	1,318
<i>Aspen Viewing Season</i>				
Weekday	2,665	3,959	3,231	2,989
Weekend	13,537	21,898	17,195	15,627
<b>Bailey</b>				
<i>Summer Season</i>				
Weekday	981	1,288	1,116	1,058
Weekend	2,429	3,334	2,825	2,655
<i>Winter Season</i>				
Weekday	283	402	334	313
Weekend	649	981	794	732
<i>Aspen Viewing Season</i>				
Weekday	1,481	2,200	1,795	1,660
Weekend	7,520	12,166	9,553	8,682
<b>Georgetown</b>				
<i>Summer Season</i>				
Weekday	13,609	19,372	16,130	15,049
Weekend	34,402	51,673	41,966	38,724
<i>Winter Season</i>				
Weekday	4,223	4,983	4,543	4,403
Weekend	8,906	11,667	10,126	9,606
<i>Aspen Viewing Season</i>				
Weekday	26,119	30,748	28,144	27,276
Weekend	122,616	144,012	131,977	127,965
<i>Sources: Guanella Pass Road Colorado Forest Highway 80 Economic Impacts Technical Memorandum, March 1997 and Addendum to Guanella Pass Road Colorado Forest Highway 80 Economic Impacts, September 2002.</i>				
<i>*Estimates given in year 1995 dollars.</i>				

Based on the results of this survey, it cannot be conclusively stated that the proposed Guanella Pass Road improvements, including the construction activities, would or would not adversely impact dude ranch business.

A more detailed analysis of this topic is provided in the *Addendum to Guanella Pass Road/Colorado Forest Highway 80 Economic Impacts* (MK Centennial, September 2002).

## **1e. Land Use**

### ***Affected Environment***

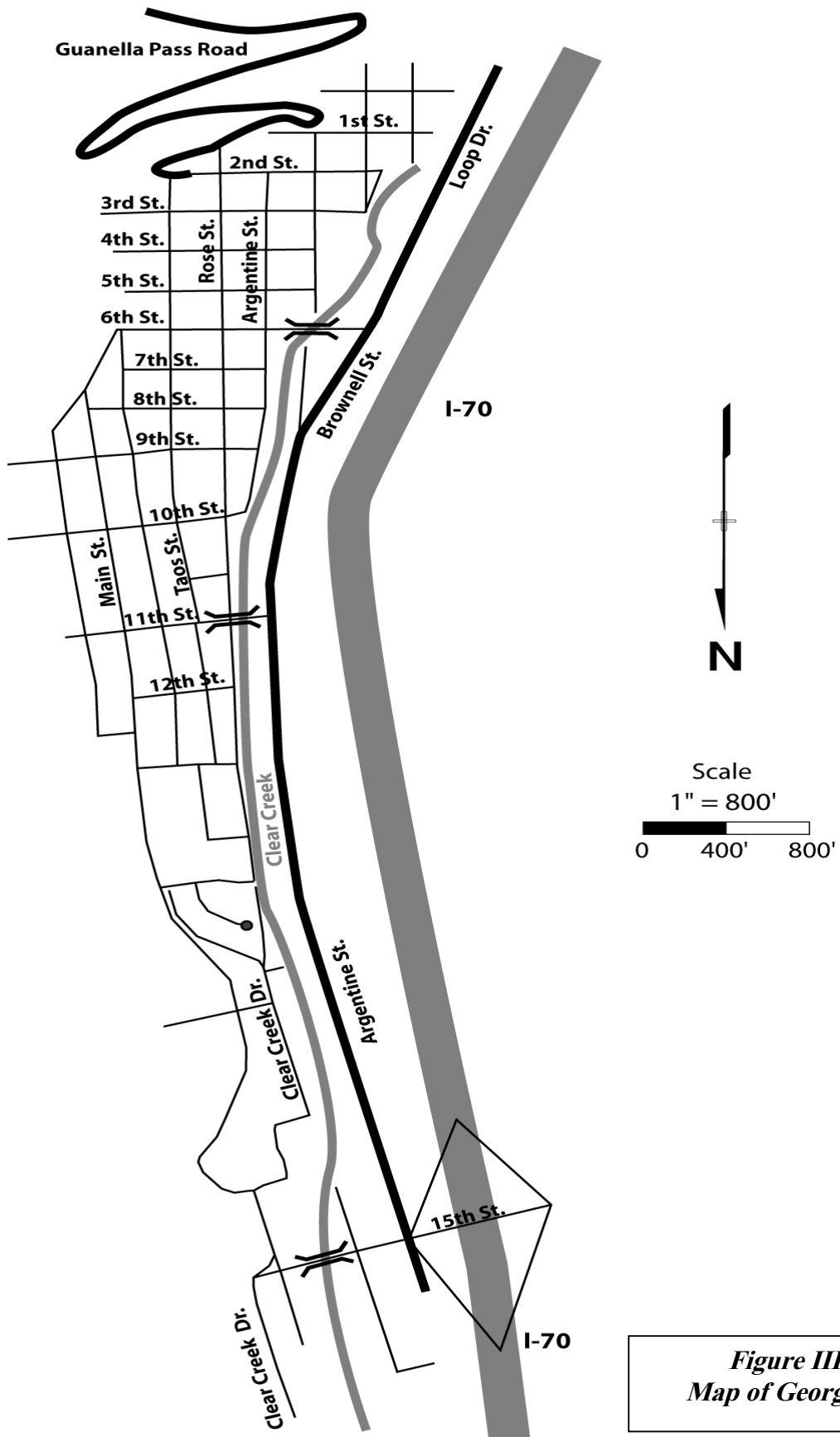
The Guanella Pass Road project corridor consists of three major land use areas. These areas include the communities of Georgetown and Grant, and the NF lands along the road. Georgetown is a unique community composed of a variety of land uses and building types. Some of the buildings are more than 130 years old. The southwest portion of Georgetown is the oldest portion of the community and includes a well-defined commercial area. Public land uses include the Georgetown Town Hall, the Clear Creek County offices, the Tomay Memorial Library, the Georgetown Community Center, the Georgetown Elementary School, the post office, and the fire department. The old residential district extends south from approximately 11th Street and continues up through the first switchback of Guanella Pass Road. A map of Georgetown is presented in Figure III-3.

North of 11th Street is generally residential in the east portion of town, and commercial along Argentine Street. A small concentration of commercial development exists at the Interstate 70 interchange including gas stations, a hotel, and a convenience store. North of 15th Street are newer developments, including a number of duplexes and multifamily units as well as single family housing.

The Historic District Public Lands Commission is an organization composed of Georgetown and Silver Plume, Historic Georgetown, Inc., the Colorado Historical Society, the CDOW, and Clear Creek County. This organization represents much of the land ownership along Guanella Pass Road between Georgetown and the Arapaho NF.

Grant is located at the south end of the study area. It is a small community located at the intersection of Guanella Pass Road and U.S. Highway 285. Grant is composed of a few homes and businesses. A post office and the Platte Canyon Volunteer Fire Department Station #3 are also in Grant.





*Figure III-3  
Map of Georgetown*

The land along Guanella Pass Road is predominantly open, undeveloped forest land. Much of the land along the road is in NFs. The Arapaho NF extends from 4.5 kilometers (2.7 miles) south of Georgetown to Guanella Pass, and the Pike NF extends from Guanella Pass to near Grant.

Private development along Guanella Pass Road includes some single-family residential homes (most near Grant and Georgetown) and some ranches, many of which are used seasonally and some of which are used year-round. A large dude ranch is located on the south end of the road approximately 9.6 kilometers (6 miles) north of Grant.

Xcel Energy operates a hydroelectric plant on the north side of the pass approximately 6.4 kilometers (4 miles) south of Georgetown. The Georgetown Reservoir, which provides the drinking water supply for the town, is also on the north side of the pass between the Xcel Energy facility and Georgetown.

Figure III-4 delineates the ownership status of the land adjacent to Guanella Pass Road.

### *Environmental Consequences*

In general, the build alternatives will cause temporary construction impacts to land use in the area. These are discussed in **Chapter III.B.6: Construction Impacts**. Long-term impacts on Georgetown and along Guanella Pass Road include an increase in traffic levels for all alternatives (including no action). Increased traffic, tourism, and demand for services may increase pressure for development of privately held land into recreational or other uses, but that pressure is not expected to increase dramatically because there is not a great deal of private land in the project corridor. The private holdings are generally near Georgetown and the Georgetown Reservoir. A large portion of the private land is held by Historic Georgetown or the Historic District Public Lands Commission for the purpose of protecting the land. The local government can also control development through zoning regulations.

#### Alternative 1

Traffic levels, and their effect on the land use activities in the corridor, will be lower for Alternative 1 than for any other alternative.

#### Alternatives 2, 4, 5

Alternatives 2, 4, and 5 are predicted to cause the greatest increase in long-term traffic levels, and thus they will likely have the greatest impact on local land use.

#### Alternative 3

Alternative 3 is expected to cause an intermediate increase in traffic levels. It would likely have a greater impact on land use than Alternatives 1 or 6, but less of an impact than alternatives 2, 4, or 5.

#### Alternative 6

Under Alternative 6, Clear Creek County, Park County, the Town of Georgetown, and the FS will manage the road corridor as a rural local road. As stipulated in the management responsibilities for Alternative 6 (**Chapter II.D.6: Management Responsibilities**), the local agencies are responsible for managing the road for local use, managing restrictions affecting

oversize and commercial vehicles, and not encouraging an increase in through traffic. The land use and future local plans for the corridor need to remain consistent with the road's designation as a rural local road if the road is to safely function. Future development, either commercial or residential, is assumed to be regulated by the local agencies to reflect a rural local road functional classification. Alternative 6 is predicted to cause the least amount of long-term increased traffic levels of all the build alternatives.

More detailed information regarding the land use along the Guanella Pass Road corridor is in the *Guanella Pass Road Colorado Forest Highway 80 Land Use Technical Memorandum* (MK Centennial and Hermsen Consultants, March 1997).

## **1f. Consistency with Local Plans**

### ***Affected Environment***

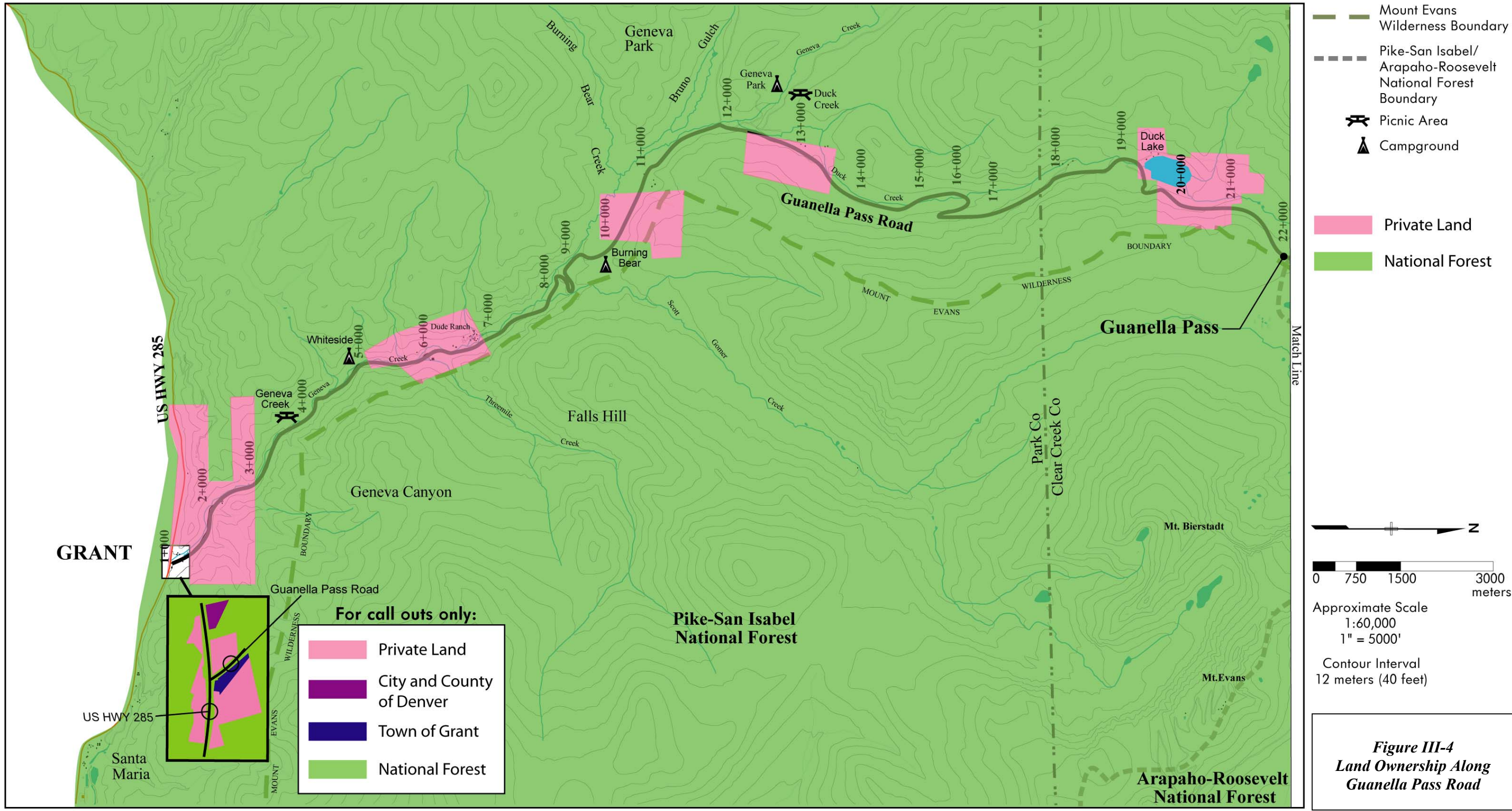
Five government agency plans apply to the Guanella Pass Road project corridor. They include:

- *USDA Forest Service 1997 Revision of the Land and Resource Management Plan, Arapaho and Roosevelt National Forests and Pawnee National Grassland*
- *USDA Forest Service 1984 Land and Resource Management Plan, Pike and San Isabel National Forests; Comanche and Cimarron National Grasslands.*
- *Clear Creek County Comprehensive Plan*
- *Park County Comprehensive Plan*
- *Town of Georgetown Comprehensive Plan*

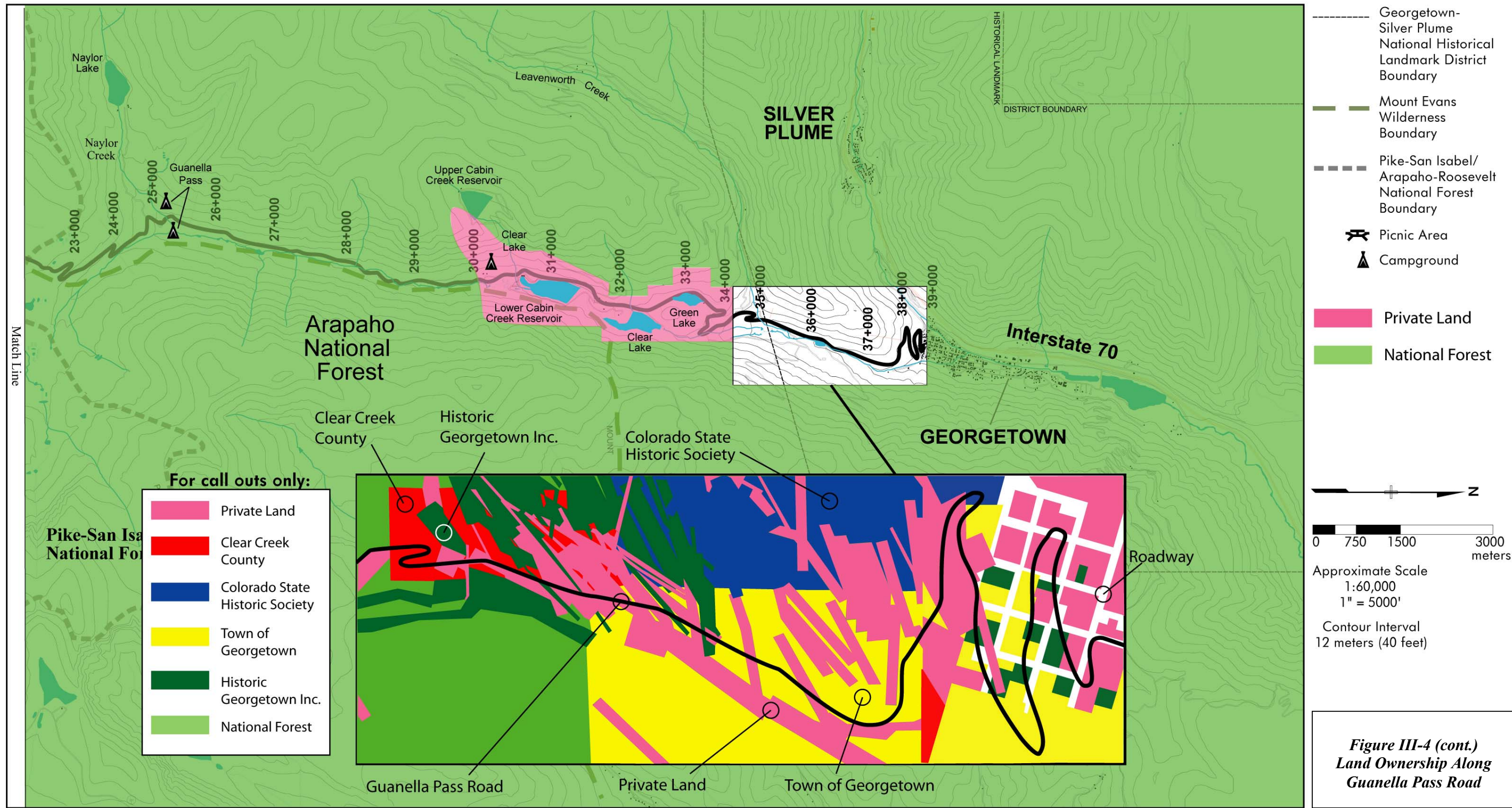
### **USDA Forest Service 1997 Revision of the Land and Resource Management Plan, Arapaho and Roosevelt National Forests and Pawnee National Grassland**

Management emphasis goals and objectives of the Arapaho and Roosevelt National Forests and Pawnee National Grassland pertinent to this project include:

- Manage the forests and grassland to assure productive, healthy ecosystems, blending social, physical, economic, and biological needs and values.
- Protect the basic air, soil and water resources.
- Bring all 6<sup>th</sup> level watersheds to functional condition. (The project area falls within two 6<sup>th</sup> level watersheds: the entire South Fork of Clear Creek and the lower portion of Clear Creek. Both of these watersheds are currently rated as "at risk" watersheds.)



**Figure III-4**  
**Land Ownership Along**  
**Guanella Pass Road**



**Figure III-4 (cont.)  
 Land Ownership Along  
 Guanella Pass Road**

- Maintain or improve water quality, stream processes, channel stability and aquatic management indicator species habitat, and riparian resources, while providing for municipal and agricultural uses.
- Provide quality developed, dispersed, and wilderness recreational opportunities within the resource capacity of the area.
- Provide an integrated travel system that considers various modes of motorized and nonmotorized use consistent with the resource capacity of the area.

The Guanella Pass corridor is located in the Loveland Pass Geographic Area and is within management prescription area 4.2 Scenery Management. Two key goals for this area are: (1) provide a variety of recreational opportunities while maintaining important habitat for boreal toad, wolverine, bighorn sheep, and mountain goat. Add and improve trailhead and nonmotorized trails at key attraction areas such as the Continental Divide, high peaks, and alpine lakes; and, (2) seek opportunities to improve conditions in the Clear Creek and South Clear Creek watersheds, which were rated as non-functional in the watershed condition assessment. Specific direction to the Guanella Pass Scenic Byway emphasizes improving trailheads, designating and improving dispersed sites, providing interpretive sites, and protecting riparian areas.

**USDA Forest Service 1984 Land and Resource Management Plan, Pike and San Isabel National Forests, Comanche and Cimarron National Grasslands**

The general Forest Direction Goals for the Pike and San Isabel NFs; Comanche and Cimarron National Grasslands applicable to this project include:

- Management of the transportation system for increased cost-effectiveness, efficiency, and utility.
- Design and implement activities to protect and manage the riparian ecosystem.
- Improve or maintain water quality to meet State and Federal water quality standards.
- Maintain air quality compatible with State and Federal laws.
- Rehabilitate disturbed areas that are contributing sediment directly to perennial streams as a result of management activities to maintain water quality and re-establish vegetation cover.
- Maintain soil productivity, minimize man-caused soil erosion, and maintain the integrity of associated ecosystems.
- Provide adequate road and trail cross-drainage to reduce sediment transport energy.
- Revegetate all areas, capable of supporting vegetation, disturbed during road construction and/or reconstruction to stabilize the area and reduce soil erosion. Use less palatable plant species on cuts, fills, and other areas subject to trampling damage by domestic livestock and big game to discourage grazing by herbivores.

The Guanella Pass Road corridor passes through three management prescription areas within the Pike NF, 2B-Rural and Roaded Natural, 8B-Primitive Wilderness, and 8C-Semi primitive Wilderness. The key goals for these prescriptive areas include: (1) emphasis on recreation opportunities consistent with the management area; (2) Locate and design required access roads to minimize the biophysical and visual impact, and to facilitate restoration; and, (3) design and implement management activities to provide a visually appealing landscape, and enhance or provide more viewing opportunities.

### **Other Local Comprehensive Plans**

The *Clear Creek County Comprehensive Plan* seeks to “maximize county utilization of existing transportation infrastructure and to assure that future development recognizes county transportation needs and conforms to the overall vision for county growth”. One of the plan’s visions for transportation is an improvement of north/south linkages within the county. The plan includes a “Desired Future” section that restates a desire for improved north/south linkages as well as for a balance between transportation needs and environmental and historical concerns.

In the *Park County Comprehensive Plan*, economic development policy encourages the county to seek to optimize investments by other public sector institutions. The comprehensive plan states that the county should seek to work with state and federal agencies that could spend money to maintain and upgrade facilities in the county. Guanella Pass Road is such a facility. The *Park County Comprehensive Plan* also states that the county will work with state and federal agencies to seek supplemental funding to upgrade and maintain collector/connector and local roads that link major recreational assets to major highways. This applies directly to Guanella Pass Road, which is a rural local road providing access from two major highways (Interstate 70 and U.S. Highway 285) to recreational areas along the road.

The *Town of Georgetown Comprehensive Plan* outlines several concerns regarding Guanella Pass Road. The issues include the potential for a large increase in traffic, a decrease in the rural and scenic quality of the road, the visual impact of the road reconstruction on Leavenworth Mountain just west of the road corridor near Georgetown, the impact of construction on the quality of life and business revenue in Georgetown, and the affect of the construction vehicles on the Georgetown infrastructure. The *Town of Georgetown Comprehensive Plan* also states that Clear Creek County is having trouble maintaining Guanella Pass Road due to increased traffic, steep grades, drainage problems, and County budget constraints. The Town of Georgetown wants to promote a local and regional road network that serves the needs of residents and visitors, minimizes the disruption to residential areas by vehicular traffic, maintains the highest possible safety standards, and protects the historical integrity of Georgetown.

In addition to the above agency plans, the *Guanella Pass Scenic and Historic Byway Corridor Management Strategy* (CMS) was released in November of 2001. The CMS is a planning tool that provides a specific vision for the future management of the corridor and gives detailed descriptions for management of the corridor’s natural, scenic, recreation, historic, cultural, and archaeological resources. The CMS is not a decision document. Therefore, an analysis of the consistency of each alternative with the CMS will not be made within this FEIS.

The CMS was collaboratively developed by the FS and a diverse group of stakeholders who together made up the Scenic Byway Committee (SBC). Several open houses and SBC meetings were held to aid in the development of the CMS. The SBC consisted of individuals representing the following organizations:

- Clear Creek County Commissioners
- Clear Creek County Tourism Board
- Clear Creek County Open Space Commission
- Clear Creek County Economic Development Corporation
- Town of Empire
- Town of Georgetown
- Colorado Mountain Club
- Scenic Colorado
- Tumbling River Ranch

One consideration in the formulation of management strategies is the increase in traffic volumes associated with all of the alternatives. The strategies serve to answer the best way to address increasing use of the corridor, such as limiting the number of visitors using the area or designing facilities to accommodate increasing demand.

### ***Environmental Consequences***

#### **USDA Forest Service 1997 Revision of the Land and Resource Management Plan, Arapaho and Roosevelt National Forests and Pawnee National Grassland**

##### Alternative 1

Alternative 1 is not consistent with the goals or objectives of this plan. No improvements to the sedimentation or erosion problems of the road corridor will be addressed. Though traffic and the associated exhaust levels will not increase as much as for the build alternatives, dust will remain a problem for the air quality of the corridor.

##### Alternatives 2-6

Each build alternative in this project was designed with consideration of the goals and objectives of this plan and is consistent with them. The full reconstruction of the entire road in Alternatives 2 and 3 provides the greatest amount of slope stability of all alternatives, while the increase in hardened surface proposed for Alternatives 2, 4, 5, and 6 all will reduce dust and sedimentation. This helps to protect the basic air, soil, and water resources.

#### **USDA Forest Service 1984 Land and Resource Management Plan, Pike and San Isabel National Forests, Comanche and Cimarron National Grasslands**

##### Alternative 1

Alternative 1 is not consistent with the goals or objectives of this plan. No improvements to the sedimentation, dust, or erosion problems of the road corridor will be addressed. Disturbed areas are not rehabilitated or revegetated.

##### Alternatives 2-6

The proposed Guanella Pass Road improvements were designed to be consistent with both the general forest direction and the specific applicable management prescriptions as contained in the *Land and Resource Management Plan, Pike and San Isabel National Forests; Comanche and Cimarron National Grasslands*.

The full reconstruction of the entire road in Alternatives 2 and 3 provides the greatest amount of slope stability of all alternatives, while the increase in hardened surface proposed for



Alternatives 2, 4, 5, and 6 all will reduce dust and sedimentation. All build alternatives include rehabilitating and revegetating previously disturbed areas.

## **Other Local Comprehensive Plans**

### Alternative 1

Alternative 1 does not improve north/south linkages in Clear Creek County, and therefore is not consistent with this recommendation of the *Clear Creek County Comprehensive Plan*.

Alternative 1 does not address the *Park County Comprehensive Plan's* economic development policy encouraging the use of Federal funds to improve county facilities and upgrade local roads that provide access to recreational facilities, such as Guanella Pass Road.

Though it does address a majority of the *Town of Georgetown Comprehensive Plan's* scenic and construction impact concerns, Alternative 1 does not complement the comprehensive plan's future vision of an efficient transportation network. The safety and structural deficiencies of Guanella Pass Road remain unchanged, and the county will still have difficulties maintaining the road in its current state as traffic volumes increase.

### Alternatives 2-6

Alternatives 2-6 are in accord with recommendations in the *Clear Creek County Comprehensive Plan* that call for improving north/south linkages in the county. Of all alternatives, Alternative 6 is the most consistent with the county's desire to balance transportation needs with environmental and historical concerns.

Alternatives 2-6 all propose Federally-funded improvements to Guanella Pass Road. This is consistent with the economic development policy of the *Park County Comprehensive Plan* which encourages using state and Federal funds to upgrade facilities and local roads providing access to recreational areas.

Alternatives 2, 3, 4, and 5 are not entirely consistent with the *Town of Georgetown Comprehensive Plan* because of the amount of full reconstruction proposed by these alternatives. These alternatives encourage more traffic than Alternatives 1 and 6 and will likely have more of an impact on Leavenworth Mountain as well as on the traffic, economy, and quality of life of Georgetown. However, Alternatives 2-5 will provide more sedimentation, erosion, and drainage control than Alternatives 1 and 6. Alternatives 2-5 also address the need to promote an efficient transportation network in the area.

Alternative 6 is complementary to the comprehensive plan with respect to preserving and promoting an efficient transportation network. Alternative 6 limits the amount of full reconstruction and paving, which should reduce estimated traffic levels and reduce impacts to Leavenworth Mountain as compared to the other build alternatives. Alternative 6 also improves the drainage problems that have plagued the corridor.

## **1g. Cultural Resources**

Cultural resources are physical remains of historical or archaeological significance. A cultural resource study was conducted along Guanella Pass Road. This study was done in compliance

with the National Historic Preservation Act of 1966, as amended, the Archaeological and Historic Preservation Act of 1974, the Archaeological Protection Act of 1979, and the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA).

The cultural resources investigation consisted of background research and a pedestrian field survey. Background research, including archival research, a literature review, a records search for previously recorded sites, and consultation with local Georgetown officials, covered an extended 3.2 kilometer (2.0 mile) wide study corridor. The field survey conducted in 1995 and 1996 covered a study corridor 60 meters (200 feet) wide along the existing route (30 meters [100 feet] on each side of existing roadway). Additional fieldwork was conducted in November 1998 to record and evaluate historic properties on private lands where access was denied in 1995 and 1996. In 2000 and 2001 additional fieldwork was also conducted to survey three borrow/material source sites, a temporary construction traffic bypass bridge site, and three parking areas.

### ***Affected Environment***

A file search of all available archaeological records at the Colorado Historical Society made it evident that very little of the region has been previously inventoried. Five multi-site cultural resource inventories had previously taken place within or in the proximity of the Guanella Pass Road study corridor. Nine new archeological sites and six isolated occurrences (IOs) were discovered and recorded as a result of the recent inventories. IOs generally exhibit lower levels of human activity and have a lower potential than archeological sites in providing substantial information. In addition, ten previously recorded sites within or adjacent to the study corridor were revisited and reevaluated. Following is a brief description of the cultural resources identified within or adjacent to the proposed project construction limits:

#### **Georgetown-Silver Plume National Historic Landmark District (Site # 5CC3)**

This 1,331 hectare (3,288 acre) historic district includes the towns of Georgetown and Silver Plume, as well as the valley between the two communities (Figure I-2). The communities in the district grew and flourished first as a mining region and later as a recreational center for the people of the Denver metropolitan area. In 1858 the discovery of gold along the South Platte River quickly led to prospecting along Clear Creek and the gold rush of 1859. That same year, the brothers George and David Griffith staked a claim at the future site of Georgetown. The Griffith lode led to the founding of ‘George’s Town’. After only a small amount of gold was found, the mining focus shifted to silver. At its zenith from 1867 to 1876, Georgetown was dubbed the “Silver Queen of the Rockies”. The population grew to 5,000 by 1876, but prosperity was fleeting and Georgetown’s days as “Silver Queen” came to an end with the repeal of the Sherman Silver Purchase Act of 1893. Mines were closed and Georgetown’s population shrank to a low of 300 in 1930. The GSPNHL was the subject of a historic sites reconnaissance survey in 1980. As a result, 211 buildings recorded within the GSPNHL are contributing properties to the historic mining era significance of Georgetown and the District as a whole.

Guanella Pass Road begins in the historic district at Rose Street in Georgetown, extends southward along Leavenworth Mountain through a series of four switchbacks, and exits the district at the Georgetown Reservoir. The length of the road within the district is 3.0 kilometers

(1.9 miles). Existing cuts associated with the road are visible from many vantage points throughout the district.

### **Colorado Central Railroad Grade (Site # 5CC3.1/5CC9)**

With the mining boom of the 1870's, the Colorado Central Railway constructed a narrow gauge railroad up Clear Creek Canyon to Georgetown in 1877. A portion of the Colorado Central Railroad Grade intersects Guanella Pass Road at the second switchback just above and to the south of Georgetown. It has been used as a driveway to a private residence in the recent past. This small portion of the grade is within the Guanella Pass Road study corridor and was originally part of the narrow-gauge rail-bed linking Georgetown to Silver Plume. Only a portion of the grade along the lower slopes of Clear Creek Canyon at the east edge of Georgetown between Third and Sixth Streets retains integrity of setting, design, and materials. The railroad, including the segment in the study corridor, has been determined eligible for listing on the NRHP as a contributing property to the GSPNHLD.

### **Georgetown Forebay Dam and Reservoir (Site # 5CC461.3) and Clear Lake Dam and Reservoir (Site # 5CC461.4)**

Both the Georgetown Forebay Dam and Reservoir and the Clear Lake Dam and Reservoir are to the south of the GSPNHLD. The Georgetown Forebay Dam and Reservoir is a rock filled structure with a concrete anchorage and an interlocking steel piling face. The Dam was built in 1902 and subsequently modified in 1936. It is currently used for water impoundment for hydroelectric power generation and the City of Georgetown water supply. Clear Lake Dam and Reservoir also provides water impoundment for hydroelectric power generation. These two sites constitute the entire Georgetown Historic Hydroelectric District and have been determined eligible for the NRHP for their association with events that have made significant contributions to broad patterns of our history.

### **Marshall Tunnel (Site # 5CC178)**

The Marshall Tunnel was an important mining center from the late 1870s until well into the 20th century. The tunnel was constructed to intersect many of the most valuable lodes in the Colorado Central Group of mines. The Tunnel was financed by F.J. Marshal, a well-known local investor whose main interests were within the Argentine mining district. This site has been determined eligible for the NRHP for its association with the history of the development of Georgetown and Silver Plume.

### **Open Lithic Scatter (Site # 5PA41)**

This site is located along Guanella Pass Road. This site consists of a non-diagnostic lithic scatter of five artifacts. As the site could not be found during the 1995-1996 inventory, its eligibility for the NRHP could not be assessed.

### **Open Lithic Scatter (Site # 5CC70)**

This site is an open lithic scatter consisting of chert flakes and one biface. Resource procurement, processing, and stone tool manufacture are evidenced at the site. It has been determined eligible for the NRHP due to its association with events that have made significant contributions to broad patterns of our history.

### **Tumbling River Rock Shelter (Site # 5PA142)**

The Tumbling River Rock shelter is a historic site with some evidence of prehistoric use. Since its previous field inspection, this location has deteriorated markedly due to recent picnickers and their debris. There remained no evidence of anything other than recent use. Subsurface testing of the site was completed in November 1999. There was no evidence of subsurface cultural deposits. The site has been determined ineligible for the NRHP.

### **Town of Grant (Site # 5PA403)**

The Schyler Colfax party named the Town of Grant when they passed through the Platte Canyon in August 1868 in honor of Ulysses S. Grant, the Republican nominee for the Presidency. With the coming of the railroad in 1879, Grant became an important supply point for the mines in Geneva Gulch. According to architectural and historical documentation from 1976 to 1977, little of the original village of Grant remains and architecturally it lacks historic integrity. It has been determined ineligible for NRHP listing.

### **Georgetown, Argentine, Snake River Wagon Road, and the Green Lake Wagon Road (Site # 5CC861.1-1.7)**

This site consists of several discontinuous linear features that might have been remnants of the Georgetown, Argentine, Snake River Wagon Road, and the Green Lake Wagon Road (GASRGL). Road segments pass through riparian zones, heavily forested subalpine slopes, and above timberline areas. Wagon roads close to Georgetown were constructed as early as the 1860s, during the Placer Mining era. One isolated segment of the GASRGL, designated as 5CC861.2-3, crosses Guanella Pass Road at the second set of switchbacks south of the Guanella Pass summit. No contemporaneous artifacts were found associated with the road segments. This site has been determined ineligible for NRHP listing.

### **Mine Tailing Dumps (Sites # 5CC988-993)**

Sites # 5CC988-990 consist of mine tailing piles and associated features of the Kirtley Mine, which was in operation from 1860 to 1900. Sites # 5CC991-993 consist of mine tailing piles from three unnamed mines. All six sites have been determined eligible for NRHP listing as contributing elements to the historic landscape of the GSPNHLD and their association with events that have made significant contributions to broad patterns of our history

### **Farwell Smelter Remains (Site # 5CC994)**

This site consists of the remains of the Farwell ore processing and reduction works smelter built between 1872 and 1873. Ore from surrounding mines during Silver Plume and Georgetown's boom period were transported over the Colorado Central Railroad to the smelter. This site has been determined eligible for NRHP listing for its association with events that have made significant contributions to broad patterns of our history.

### **Guanella Pass Road (Site # 5CC995 / PA1139)**

This site is the existing Guanella Pass Road, which was constructed as recently as 1951 under the supervision of Byron Guanella. It has been determined ineligible for listing on the NRHP.

### **Open Lithic Scatter (Site # 5PA2002)**

This site is a sparse lithic scatter suggesting Late Prehistoric or Historic Contact Occupation. Resource procurement, processing, and stone tool manufacture are evidenced at the site. Construction and use of the Duck Creek Picnic Ground has destroyed the integrity of the site. This site has been determined ineligible for the NRHP listing.

### **Duck Creek Road (Site # 5PA2003/5CC1188)**

Duck Creek Road was used between 1880 and 1950 by timber cutting crews to access Duck Creek drainage north of Geneva Park. This site has been determined ineligible for the NRHP listing.

### **Isolated Occurrences**

IOs recorded in the study area include crimped-seam cans and pieces of stoneware, crockery, and bottle glass dated between 1930 and 1950. By definition, IOs are not eligible for listing on the NRHP.

### ***Environmental Consequences***

Potential impacts to sites listed on or eligible for the NRHP and recorded within or adjacent to the project area have been considered and are identified as follows:

### **Georgetown-Silver Plume National Historic Landmark District (Site # 5CC3)**

#### Alternative 1

Alternative 1 will not impact this historic landmark district.

#### All Build Alternatives

Because Leavenworth Mountain is the backdrop to the historic setting of the 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. Proposed improvements included in all build alternatives would 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. Alternative 6 would have the least amount of impact to Leavenworth Mountain due to reduced roadway width, curve radii, and retaining wall height. Construction of the proposed Silverdale Parking Area would not adversely affect the GSPNHLD. If the FHWA adopts construction of a temporary construction traffic bypass bridge to route construction traffic away from Georgetown along Loop Road to the second switchback on Leavenworth Mountain, a portion of the Colorado Central Railroad Grade (Site #5CC3.1/5CC9) would be adversely affected. However, an adverse effect to the Colorado Central Railroad Grade would not adversely affect the GSPNHLD since it would not substantially diminish those qualities for which the GSPNHLD was listed on NRHP. If the temporary construction bypass bridge is not adopted, construction traffic will be routed through Georgetown. This traffic would not produce vibrations sufficient to damage historical structures along the haul route, and consequently would not adversely affect the GSPNHLD (refer to **Chapter III.B.6f: Vibration** for vibration studies conducted in Georgetown).

## **Colorado Central Railroad Grade (Site # 5CC3.1/5CC9)**

### Alternative 1

Alternative 1 poses no adverse affects.

### All Build Alternatives

Approximately 160 meters (525 feet) of the railroad grade, adjacent to the second switchback of the roadway, would be adversely affected by adoption of the temporary construction traffic bypass bridge along Loop Road. However, Georgetown has rejected the construction of the temporary bypass bridge due to ROW concerns.

## **Georgetown Forebay Dam and Reservoir (Site # 5CC461.3) and Clear Lake Dam and Reservoir (Site # 5CC461.4)**

Both of these sites are outside the area of potential effects (APE) and are not affected by the proposed project.

## **Marshall Tunnel (Site # 5CC178)**

This site is outside the APE. The proposed project does not affect it.

## **Open Lithic Scatter (Site # 5PA41)**

This site could not be found during the 1995-1996 field inventory. The effect of the proposed project on this site remains indeterminate.

## **Open Lithic Scatter (Site # 5CC70)**

### Alternative 1

Alternative 1 will cause no adverse effects.

### All Build Alternatives

This site would not be adversely affected by the construction of a new parking facility at the summit of Guanella Pass, under all build alternatives.

## **Town of Grant (Site # 5PA403)**

Though this site is outside the APE and it has been determined ineligible for listing on the NRHP, there is the possibility that historic subsurface archaeological deposits that cannot be observed from the surface may be located in the vicinity of Grant. Therefore, archeological monitoring of construction activities will be conducted along the portion of the Guanella Pass Road near the Town of Grant.

## **Mine Tailing Dumps (Site # 5CC988-993)**

### Alternative 1

Alternative 1 will not impact these sites.

### Alternatives 2,3,5, and 6

Sites 5CC988 (Station 35+200-35+400), 5CC989 (Station 36+100), and 5CC990 (Station 36+300) are located on or adjacent to Guanella Pass Road between Silverdale and the Kirtley Mine and would be directly impacted by build alternatives 2, 3, 5, and 6. Alternatives 5 and 6 would involve rehabilitation of the road at these sites which would result in less direct impact than Alternatives 2 and 3 which would involve full reconstruction of the road at these locations. Full reconstruction requires more overall ground disturbance than rehabilitation. Adoption of Alternative 2, 3, 5, or 6 would not substantially diminish the integrity or qualities of sites 5CC988-990 which meet criteria A (association with broad patterns important in our history) for NRHP eligibility. The impacts to sites 5CC988-990 would not be an adverse effect. The remaining three sites (5CC991-993), located between the third and fourth switchbacks on Leavenworth Mountain, are outside of the APE and are not affected by the proposed project.

### Alternative 4

Alternative 4 would consist of no action at these sites and therefore would have no impact.

## **Farwell Smelter Remains (Site # 5CC994)**

This site is outside of the APE and will not be affected by the proposed project.

A more detailed analysis of this topic is provided in the report entitled *An Intensive Cultural Resources Survey along the Guanella Pass Road, Colorado Forest Highway 80, Park and Clear Creek Counties, Colorado* (Henry Walt, 1998).

## **1h. Traditional Cultural Properties**

### ***Affected Environment***

An ethnographic Native American study was conducted for the Guanella Pass Road improvement project to identify and evaluate TCPs in compliance with the American Indian Religious Freedom Act (AIRFA), the NAGPRA, and Executive Order 13007 (Indian Sacred Lands). The design of the study included Native American contacts, archival research, field research, meetings, and interviews. Tribes contacted by letter and telephone for the ethnographic study included the Southern Ute, Ute Mountain Ute, White Mesa Ute, Uintah and Ouray Ute (White River and Uncompahgre bands), Eastern Shoshone, Comanche, Northern Arapaho, Northern Cheyenne, and Sioux. The Arapaho NF, Pike NF, and National Park Service were also contacted for their input. Based upon the results of the initial contacts, a site and project area reconnaissance was performed. Some sites were identified during the site and area reconnaissance. Indian trail segments were identified along the route of Guanella Pass Road, and a possible use area was pointed out above the Tumbling River Rock Shelter. One probable vision quest site was identified beyond the APE at the top of Guanella Pass and vision quest

sites, campsites, game drive sites, and trails were reported on both sides of the pass, also well beyond the APE.

### **Ethnographic and Historic Period Native American Occupants**

Guanella Pass is located within the traditional range of the Eastern Ute (Southern, Uncompahgre and White River bands). The Taviwach band of the Uncompahgre Ute was the closest to Guanella Pass, but any of the Ute tribal divisions or bands may have used the area over time. By approximately 1750, other tribes such as the Arapaho, Cheyenne, Comanche, Kiowa, Shoshone, and Sioux entered Ute territory while hunting, warring, or trading. These groups may have used the high country around Guanella Pass as well. During the historic period, the Arapaho and Cheyenne in particular are known to have invaded Ute territory in the mountains. In turn, the Ute ventured into Arapaho and Cheyenne country on the plains east of Denver to hunt bison.

### **Ethnographic Cultural Context**

Before the Eastern Ute acquired the horse, they practiced a nomadic hunting and gathering way of life, similar to their Western Ute relatives. The main social and economic unit was the extended family group, which hunted and gathered together most of the year. These extended family groups met with other family groups only for a brief period in the spring. Leadership was limited, with status and differentiation based solely on age, sex, and generation.

With the acquisition of the horse, the Eastern Ute took on the cultural traits of the horse and buffalo complex, becoming like the other Plains tribes. Band organization was broadened and strengthened as the Eastern Ute established larger groups, political leadership, fortified encampments, and organized warfare.

### **Historic Cultural Context**

The Escalante explorations in 1776 and 1777 documented Ute territory and some elements of their culture. These and other explorers were followed by trappers, miners, and settlers who eventually managed to push the Ute out of their traditional homeland. The Eastern Ute were not substantially affected by white expansion until approximately 1850, whereas the Western Ute felt the pressures of white encroachment earlier. During the 1850s and early 1860s, the discovery of precious minerals and the rush for land led to serious conflicts between non-Native Americans and the Eastern Ute, with subsequent pressure on the government to remove the Eastern Ute from Colorado. In a series of agreements and treaties negotiated between 1860 and 1880 the Ute ceded most of their lands in Colorado, retaining only two small reservations in the southwest corner of Colorado, currently occupied by the Southern Ute. The Uncompahgre and White River Ute were moved to the Uintah-Ouray Reservation in Utah. Some of the Eastern Ute remained in Colorado, offering resistance to white intrusion and expansion through the decade of the 1870s.

### ***Environmental Consequences***

#### Alternative 1

Alternative 1 will not impact TCPs or other sensitive Native American sites.



## All Build Alternatives

Based on the information gathered from literature and oral history sources, none of the build alternatives will affect TCPs or other sensitive Native American sites. However, Native Americans expressed concerns regarding the project. These concerns included the possible indirect disturbance of cultural sites from increased public access associated with improvement of Guanella Pass Road and projected increases in traffic volume.

A more detailed analysis of this topic is provided in the *Guanella Pass Road Forest Highway 80 Native American Studies Technical Report* (MK Centennial and Woods Cultural Research, Inc., October 1997).

## **2. Water Resources**

### **2a. Water Quality**

Water quality was identified as a key issue of concern during the scoping process. The streams in the project vicinity are used for domestic water supply (after treatment) as well as providing recreational, agricultural, wildlife, and fisheries benefits. Both negative and positive effects would be expected from construction. There are short-term impacts caused by construction activities and long-term benefits from correcting existing erosion problems.

### ***Affected Environment***

The primary water resources in the Guanella Pass Road study area are the South Fork of Clear Creek along with its tributary Leavenworth Creek, and Geneva Creek along with its tributaries Scott Gomer Creek and Duck Creek. The South Fork of Clear Creek and its tributary, Leavenworth Creek, flow from the north side of Guanella Pass downstream to the main fork of Clear Creek at Georgetown. Geneva Creek and Duck Creek drain areas on the south side of the pass and flow into the North Fork of the South Platte River at Grant. The eastern side of the major watersheds is bounded by the Mount Evans Wilderness Area, and the western side is bounded by the Continental Divide. The headwaters of these streams are located in alpine terrain at elevations above 3,350 meters (11,000 feet). Elevations at the downstream ends of the study area near Grant and at Georgetown are in the vicinity of 2,600 meters (8,500 feet). The highest mountain areas typically have snow for more than six months each year. The streambed slopes are typically steep, approximately 60 meters/kilometer (300 feet/mile), and flow is turbulent during the peak snow melt runoff periods. The streambeds are composed of boulders and cobbles, although pea gravel, silt, and sand settle in pool and run habitats, in low velocity areas, and around instream obstructions. These sediments also settle on channel bottoms where beaver dams impound the stream and in man-made reservoirs.

The principal source of water to the streams in the Guanella Pass Road study corridor is snowmelt runoff. Lesser amounts of runoff are contributed by rainfall and groundwater seepage (primarily during the summer months). Peak daily flows typically occur in late May or June. One notable trans-mountain diversion feature, the Vidler Tunnel, conveys water from Peru Creek on the west side of the Continental Divide to Leavenworth Creek. Typically, water is diverted through the tunnel only during July and August.

The Colorado Water Quality Control Commission (WQCC) has classified certain segments of the study corridor streams and tributaries for various beneficial uses. In assigning a beneficial

use, it is intended that a stream should support the beneficial use, or the quality of the stream should be improved to support the beneficial use. Water quality standards assigned to a classification are more stringent for lower numbered classes. The following classification information is taken from the WQCC document *Classification and Numeric Standards South Platte River Basin 2*.

- Mainstem of Geneva Creek from source to the confluence with Scott Gomer Creek  
– Class 1 Cold Water Aquatic Life, Class 2 Recreational.
- Mainstem of Geneva Creek from the confluence with Scott Gomer Creek to the confluence with the North Fork of the South Platte River; all tributaries of Geneva Creek from their source to the confluence with the North Fork of the South Platte River  
– Class 1 Cold Water Aquatic Life, Class 2 Recreational, and Agricultural.
- Mainstem of South Clear Creek, including all tributaries, lakes, and reservoirs, from source to the confluence with Clear Creek, except for Leavenworth Creek  
– Class 1 Cold Water Aquatic Life, Class 1 Recreational, Water Supply, and Agricultural.
- Mainstem of Leavenworth Creek from source to confluence with South Clear Creek  
– Class 2 Cold Water Aquatic Life, Class 1 Recreational, Water Supply, and Agricultural.

## Studies

Hydrology and sediment transport related to forest roads have been extensively studied. Several of these studies are summarized and referenced in the United States Geological Survey (USGS) Report 00-4186 (pages 82 and 117, respectively). Sediment production sources and rates measured or estimated on forest roads indicate that cutslopes are a small source of sediment compared to the road surface for gravel roads, ranging from 0.4 percent (heavy-use roads) to 50 percent (light-use roads). The Water Erosion Prediction Project (WEPP) model for analysis of the components of insloping forest roads estimated that the road surface and ditch are more important contributors to sediment yield than the cutslope. Applying crushed rock to dirt roads in 3 to 6 inch lifts has been shown to reduce road-surface sediment production by 70 to 92 percent compared to unprotected roads. Heavy-use gravel roads in a Washington forest were estimated to produce 250 times more sediment than paved roads, on average. Sediment production was 4 to 17 times greater on a road with marginal quality aggregate compared to good quality aggregate. Paving resulted in a 97 percent reduction of road-surface sediment production in an Idaho experiment.

An interagency meeting was held in 1994 to discuss water quality issues, including the availability of existing data and studies needed or desired for the proposed project. The meeting included representatives from the FHWA, FS, Denver Water Board, Park County Advisory Board on the Environment, Colorado Division of Water Resources, Clear Creek Watershed Association, Colorado Department of Public Health and Environment (CDPHE), and the USGS.

Under contract with the FHWA, the USGS performed water quality studies in the project area during 1995 to 1997. Much of the information in this section is based on data from these studies. All of the hydrologic and water quality data has been published in USGS Reports 00-4186 (*Assessment of Water Quality, Road Runoff, and Bulk Atmospheric Deposition, Guanella Pass Area, Clear Creek and Park Counties, Colorado, Water Years 1995-97*), 00-82 (*Hydrologic, Water Quality, Sediment Transport, and Bulk Atmospheric-Deposition Data, Guanella Pass*

*Area, Colorado, October 1, 1994, through September 30, 1997), and 00-54 (Evaluation of Biological Data, Guanella Pass Area, Clear Creek and Park Counties Colorado, Water Years 1995-97).*

Data was collected during the 1995 to 1997 period from over 70 sites throughout the project area, including stream water quality sampling sites, road runoff sites, ground water sites, lake/reservoir sites, snow precipitation sites, bulk atmospheric deposition sites, and biological sampling sites. The collected data included measurements of stream flow, specific conductance, pH, water temperature, turbidity, barometric pressure, dissolved oxygen, suspended sediment concentration and particle size analyses, solids concentrations of bulk atmospheric deposition, benthic invertebrate density, and concentrations of selected major ions, nutrients, and trace elements.

Water quality monitoring of Clear Creek is also conducted eight times per year in a joint effort by the Upper Clear Creek Watershed Association (UCCWA), the Standley Lake Cities, and the EPA. One of the monitoring sites is on South Clear Creek, just above the confluence with Leavenworth Creek. This site is close to one of the seven Clear Creek monitoring sites of the USGS study.

### **Primary Drinking Water Standards**

The Federal Safe Drinking Water Act and the Federal Water Pollution Control Act (renamed the Clean Water Act [CWA] in 1972) established standards for water quality to protect human health and aquatic life. The EPA, under the authority of the Safe Drinking Water Act, has established nationwide Primary Drinking Water Standards (Human Health Standards) in the form of Maximum Contaminant Levels (MCLs) for a number of constituents. The State of Colorado has adopted the EPA's MCLs for use as state standards. Waters used for drinking water supply should not exceed the MCLs at the tap. None of the levels found at ground water sampling sites exceeded the MCLs.

### **Aquatic Life Standards**

Under authority of the CWA, the EPA has empowered the State of Colorado to set water quality standards to protect aquatic life. Some aquatic life standards are absolutes, while others are computed as a function of other variables such as hardness. Aquatic life standards also take the form of either acute standards (not to be exceeded at any time) or chronic standards (not to be exceeded beyond a designated duration). As part of the USGS study, variable aquatic life standards were estimated using methodology provided by staff of the Colorado WQCC. Samples were tested for 21 constituents.

Surface waters in the study area had low total dissolved solids, nutrients, and dissolved metals. Acidic drainage from the bedrock geology or abandoned mine workings affects Geneva Creek and Leavenworth Creek. This acidic drainage resulted in higher metals (iron, lead, and zinc) concentration. Some samples from Clear Creek exceeded chronic limits for iron, manganese, cadmium, lead, and zinc. Some samples from Geneva Creek exceeded chronic limits for iron, lead, zinc, copper, and silver, as well as acute limits for zinc and copper. This does not mean that these constituents are present in drinking water. Georgetown municipal water comes from a water intake on South Clear Creek and is processed by a water treatment plant before reaching the tap.

The publication *State of the Watershed Report-Clear Creek 1997*, produced by EPA Region 8 and the CDPHE, states that the water quality in the South Fork of Clear Creek is relatively good compared with other Clear Creek tributaries. Leavenworth Creek, however, has been impacted by past mining activity close to the creek's headwaters. Many of the metals, especially zinc, copper, and cadmium, are toxic to fish and other aquatic life of Clear Creek. Although people are generally less sensitive to metals than fish, manganese has been a concern of municipalities that use Clear Creek for their drinking water.

### **State Water Quality Standards**

The water quality required for state-classified water uses must be sustained to comply with antidegradation policy. In March 1998 the CDPHE issued Colorado's 1998 303(d) list of water quality limited stream segments. The list was prepared to fulfill section 303(d) of the federal CWA.

Geneva Creek from the confluence with Scott Gomer Creek to the confluence with the North Fork of the South Platte River is on the State 303(d) list with a status of Partially Supporting for the designated use of Cold Water Aquatic Life, which means the designated use exhibits some interference, but is not precluded. 303(d) status means water quality within the segment must be improved and not further degraded. This segment is listed because of impairment from zinc and metals contamination. The USGS water quality study collected samples at stream-sampling sites adjacent to the Guanella Pass Road for Colorado water quality standards. Generally, the total recoverable iron chronic standard was exceeded most frequently. Zinc standards were exceeded numerous times at the Geneva Creek GC11 site. Total phosphorus concentrations in storm runoff of Guanella Pass occasionally exceeded the EPA guideline. The FS recommended to the CDPHE in July, 2002 that sediment be recognized as another source of stream impairment.

The designated uses for South Clear Creek are Aquatic Life Cold 1, Recreation 1, Water Supply and Agriculture and it is not listed on the State 303(d) list. Although South Clear Creek is not a 303(d) listed stream, metal contamination is still a concern.

### **Biological Samples**

Biological samples indicate that most sites within the study area have reasonable populations of aquatic insects and algae; however, there is wide variability in macroinvertebrate taxa richness, density, and diversity. Geneva Creek has low pH and higher than background trace element concentrations and a degradation in invertebrate and algal communities. Reduced and degraded populations of macroinvertebrates were found in Geneva Creek upstream of the confluence with Duck Creek. Samples from Geneva Creek at Grant and South Clear Creek above Naylor Creek and above Lower Cabin Creek had relatively low values for taxa richness and density. Samples with relatively high values were taken from the mouth of Leavenworth Creek and from Duck Creek near the confluence with Geneva Creek.

Although the USGS report found that generally the aquatic biology in the streams is reasonably healthy, there is evidence of detrimental effects to habitat quality from sedimentation. Sediment affects macroinvertebrates by filling the space between rocks in the stream bottom, which reduces the amount of usable habitat. One reason why the report did not show extreme examples of adverse effects may be because the beaver dams in South Clear creek trap sediment. There are at least two recently abandoned beaver dams below Naylor Creek, with sediment deposition in the dams about a meter (3 feet) deep.

## Sediment

Sediment is a concern because it fills reservoirs and affects aquatic life. The “Characterization of Guanella Pass Road Runoff” section of the USGS report has a lengthy discussion of the various sources of sediment along Guanella Pass Road, complete with photos and maps. Measured suspended sediment concentrations were small in low flow samples and were larger, with considerable site-to-site variation, in high-flow samples. Instantaneous suspended sediment discharge for high flow samples ranged from less than 1 mg/L at many sites during low flow to 1,180 mg/L at one site (CC2) during storm flow. Median concentrations were generally less than 20 mg/L (USGS Report 00-4186).

FS direction is to manage streams to prevent suspended sediment from exceeding 250 mg/L over a one-hour period or from ever exceeding 500 mg/L. Instantaneous measured suspended sediment concentrations along Geneva Creek and Clear Creek showed that these limits were rarely exceeded even during high flow. At low flow, suspended sediment concentrations were in the range of 1 to 9 mg/L. While sediment concentrations increase in a downstream direction along Geneva Creek, they decrease in a downstream direction along Clear Creek. The decrease is due to the relatively low suspended sediment contributions from tributaries and the settling out of suspended sediment in reservoirs and beaver dams. In a letter dated July 12, 2002 (included in **Appendix A: Interagency Correspondence**), the FS recommended to the CDPHE that Geneva Creek be added to the 303(d) list as impaired due to sedimentation.

FS direction is to control sediment in streams so that it does not reach levels which reduce reproductive success of fish or cause a decline in macroinvertebrate biomass or diversity. In general, the stream gradient in the area is steep, which tends to keep finer grain sizes in suspension. Sediment deposits at the inlets to lakes or reservoirs are conspicuous in only one area: where South Clear Creek enters Georgetown Reservoir, a large alluvial fan has developed. The likely source of the sediment is Leavenworth Creek because the other tributary stream, South Clear Creek, is located below Lower Cabin Creek Reservoir and Clear Lake, which trap much of the sediment from the upper part of the basin.

To estimate sediment production from typical road sections of Guanella Pass Road, an abbreviated version of the WEPP Road Model was used. This model is an interface for the WEPP soil erosion model that allows users to describe numerous road erosion conditions. The FS, Rocky Mountain Research Station and San Dimas Technology and Development Center developed this model. Results are included in the technical report: *Sedimentation Problems Identified on the Guanella Pass Road - Aquatic and Soil Resource Recommendations* (FS, October 25, 2001).

The USGS report shows a greater than 500 times increase in suspended sediment for a sampling site during a storm event, while the water discharge increased by only 1.31 times pre-storm conditions. The report dismissed bank, streambed, and surface erosion as minor contributors, and cited runoff from the road as the likely source of the large increase in sediment. WEPP Road Model outputs show that those road sections which are unpaved and are either immediately adjacent to a perennial stream or are within 30 meters (100 feet) of a perennial stream produce the most sediment into the adjacent stream.

The WEPP Road Model indicates that paving (or applying a hardened surface that does not erode) those sections of unpaved road that are adjacent to perennial streams could reduce sediment from entering the streams by 159 kilograms per 100 meters (350 pounds per 330 feet)

of road per year, or 1,592 kilograms per kilometer (5,650 pounds per mile) per year. The model also indicates that applying pavement (or applying a hardened surface that does not erode) to currently unpaved road sections within 30 meters (100 feet) of streams would substantially reduce sediment from entering the streams. This model run only estimated sediment from the road surface. It did not consider unstable cut and fill slopes, drainage features or maintenance practices.

## **Lakes**

Green Lake exhibits higher concentrations of zinc and other metals in bottom sediment than other lakes and reservoirs in the study area. Duck Lake and Clear Lake stratify during the summer, becoming oxygen poor in the near-bottom water layer.

## **Roadway Runoff**

Road length between culverts, road gradient, and surface type are important factors in erosion of the road surface, while ditch length and roughness are important factors in ditch erosion. Because the existing road does not have enough culverts, water gathers velocity, which degrades ditches and increases erosion. Sheet flow across the road adds to sedimentation that is transported into aquatic habitat. The USGS study estimated the effects of storm water runoff from the unpaved sections of Guanella Pass Road. This runoff has much higher concentrations of nutrients, suspended sediment, organic carbon, and trace metals than ambient stream flows. Trace elements from roadway runoff tend to be in particulate form, reducing their toxicity to aquatic life. The source of suspended sediment in road runoff was observed to be the unpaved roadbed and erosional areas of non-vegetated road cuts and exposed downslope road embankments. Snowmelt runoff from the road is believed to have little influence on stream-suspended sediment concentrations because of the relatively strong effects of dilution at high flow. Greater potential for increased suspended sediment exists during summer rainstorms because low flow of the stream is inadequate for effective dilution.

Many of the road cuts on the existing road have either failed to revegetate naturally or support only marginal amounts of vegetation. When the road was originally constructed, many of the cuts into the hillside were overly steep and continue to erode. Materials slide or are washed down by rain and snowmelt. Road maintenance crews remove materials at the toe of cuts to maintain shoulders and ditches, continuously upsetting slope stability (Figure III-5a). Management practices such as the grading of roads and ditches increase sediment yield by pushing roadway materials outside of the original construction boundaries (Figure III-5b). Once mobilized, these erosion products can be transported into streams.

Unstable cut slopes seem innocuous because the ditch and road trap material falling off the slope, but in fact they may contribute substantially to sedimentation of streams. Soil and rocks fall into the ditch below the cut slope. Snowmelt, storms and other runoff runs down the ditch, picks up the sediment and flushes it down the ditch. Typically ditches are drained by a culvert under the road that carries the material either into a stream, or onto a slope below the road (Figure III-5c).



***Figure III-5a: Unvegetated, unstable cut slope with toe of slope undercut.***



***Figure III-5b: Roadway maintenance has pushed the road beyond its original boundaries.***

The proximity of the road to streams results in generally short buffer zones between the road and stream that do not allow for the removal of particles suspended in water or air. In some areas, such as along the lower reaches of Geneva Creek near Grant, the sideslope of the roadbed erodes directly into the stream (Figure III-5d). Because the road in some areas occupies part of the pre-road floodplain, the stream morphology (meanders, pool/riffle distribution) has been altered. This has resulted in erosion of stream gradient, creating less suitable habitat for aquatic life. Areas observed to have short buffer zones, steep slopes, and ditch or culvert inputs to the stream are shown in Figure III-6.



***Figure III-5c: Sediment discharge from a 'hanging' culvert erodes a slope and deters vegetation growth.***



***Figure III-5d: Area of Guanella Pass Road where the roadbed erodes directly into Geneva Creek.***

The FS identified priorities for water resource protection for different sections of the Guanella Pass Road (*Sedimentation Problems Identified on the Guanella Pass Road Aquatic and Soil Resource Recommendations* [FS, October 25, 2001]).

The three categories of priority are:

- 1) road sections immediately adjacent to a perennial stream channel, stream crossing, or wetland;
- 2) road sections within 30 meters (100 ft) of a perennial stream channel; and
- 3) road sections greater than 30 meters (100 ft) from a perennial stream channel.

A total of 5.8 kilometers (3.6 miles) is classified as priority 1, 14.9 kilometers (9.3 miles) is priority 2, and 17.4 kilometers (10.8 miles) is priority 3. The report states that the major source of sediment from Guanella Pass Road is the road surface.

While moderate degrees of slope erosion occur throughout the entire route, the most severe problems are associated with the steepest slopes. This appears to be a problem in the switchback areas above Georgetown, the switchbacks below Green Lake, the switchbacks along South Clear Creek above Naylor Creek, the entire section of the road from the top of Guanella Pass to the beginning of the paved section below the Geneva Basin Ski area, and the Falls Hill section. These areas are potentially large sources of sediment and chemical constituents to streams.

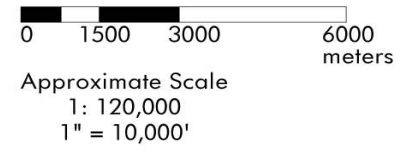
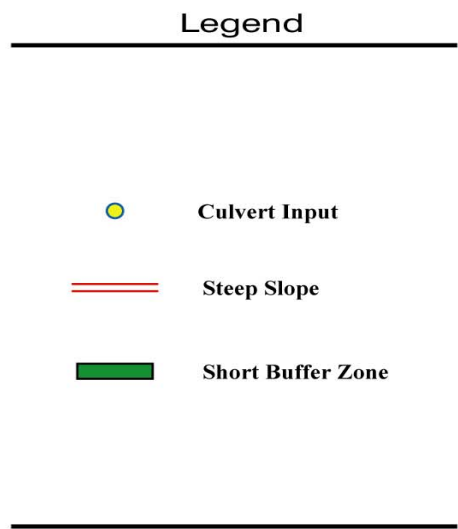
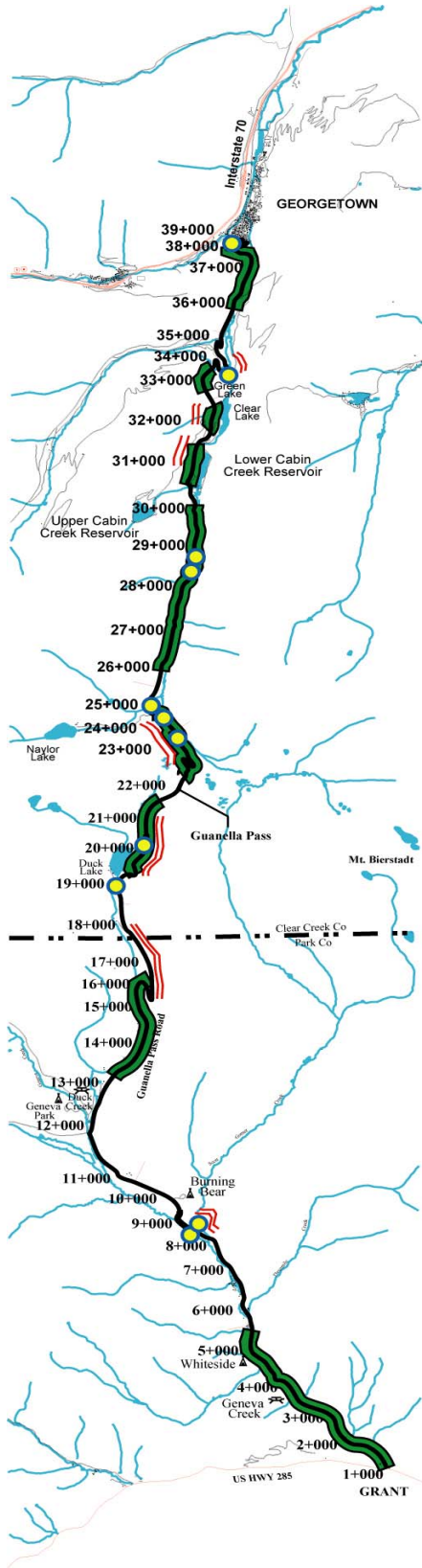
Where buffer zones are capable of absorbing the particles in road runoff, the deposited material can be detrimental to the buffer zone plants. Wetlands and tundra areas are examples of areas susceptible to this type of damage. Two areas of severe damage are present along the Guanella Pass Road. One is in the switchbacks along South Clear Creek above Naylor Creek, where flow from a culvert eroded an approximately 45 meter (150 feet) long area up to 5 meters (15 feet) wide and 3 meters (10 feet) deep in colluvium on the slope. The eroded material not reaching the stream was deposited as an alluvial fan at the base of the slope in a zone of wetlands and riparian areas.

The other area receiving large amounts of deposited material is located 1.6 kilometers (1 mile) south of the top of Guanella Pass. A culvert discharges sediment onto an area of willow and tundra plants. The area covered by sand and gravel deposits is quite extensive. Small tundra plants were eliminated by the deposit and even willows do not grow on the thickest part of the deposit.

## **Dust**

As part of the USGS study, bulk atmospheric deposition (dust, etc.) was measured at various locations in the vicinity of Guanella Pass Road. Bulk deposition at the average gravel road site was more than 60 times greater than the reference site (located at least 150 meters [500 feet] from a road) and 24 times greater than the average site next to a paved road surface. The potential direct effects of bulk deposition were estimated for a reach of Geneva Creek along the road. Results indicate that bulk deposition near the gravel road could make up a small fraction (about three percent) of the suspended sediment in Geneva Creek during the late-summer low-flow. Direct deposition is a much smaller part of the total sediment during high flow. It is difficult to estimate the total effect of dust because it is likely that considerably more dust enters the streams by secondary pathways than falls directly onto the water. An unmeasurable, but probably substantial, portion of the dust that falls in the surrounding area also





**Figure III-6**  
**Identification of Short Buffer Zone,**  
**Steep Slopes, and Culvert Input**

eventually reaches the stream. In addition, dust from the road contributes to localized impacts where it is adjacent to the Mt. Evans Wilderness and may affect the Class II airshed over the wilderness area. In an attempt to counter the dust problem, Clear Creek County has used dust suppressants on an as-needed basis since 1990. Park County has not used dust suppressants on this road.

### **Dust Control Chemicals**

Clear Creek County has applied  $MgCl_2$  to the unpaved sections of the road to control dust. It was initially applied in 1987 with additional applications in 1993 and 1998. Based on the USGS reports, the mass of  $MgCl_2$ -derived chloride from these three applications is estimated at 51.8, 10.4, and 14.1 metric tons (57.1, 11.5, and 15.5 tons, respectively). The average annual mass of chloride, from both natural and man-made sources, transported in South Clear Creek at a point below the affected area was 12.5 metric tons (13.8 tons) per year for the period 1995 to 1997.

The USGS study calculates that the flow-weighted mean concentration of  $MgCl_2$ -derived chloride increases by about 3 to 12 times the original concentration. This assumes that the entire mass of chloride applied would be flushed from the basin in a single year. In the case of the largest increase, the annual flow-weighted mean concentration in 1996 (0.5 parts per million [ppm]) might increase 12 times (to 5.9 ppm). This remains well below the concentration determined to be harmful to plants, fish, and aquatic life. Water quality criteria for chloride (Cl),  $MgCl_2$ , and Sodium Chloride (NaCl) are included in Table III-8.

### **Deicing Salts**

Guanella Pass Road is located in a high-elevation area with relatively high precipitation compared to Denver. The amount of precipitation and runoff tend to both dilute the salt concentrations and make them highly mobile. Increased dilution often reduces peak-flow salt concentrations in streams to levels that are comparable to or lower than pre-storm base-flow conditions.

Winter maintenance of the Clear Creek County portion of Guanella Pass Road has included the application of traction gravel with a NaCl content of approximately three to six percent. The traction gravel has only been applied on the paved section of the road from Georgetown to the Cabin Creek Reservoir. Traction gravel has not been applied to the upper dirt section of the road or to the summit area by Clear Creek County. Park County applies salt to the road in winter on some occasions. Park County roads that do receive more intensive traction sand/deicing salt application receive about 0.4 metric ton per kilometer (0.8 ton per mile) of salt annually.

To put this in perspective, many roads annually receive more than 27 metric tons of salt per kilometer (50 tons per mile) (*Highway-Wildlife Relationships, Volume 1:18-19* (FHWA, 1975)). The relationship between tons per kilometer and concentrations of salt in the surrounding soil is dependent on many local factors such as drainage patterns, soil properties, and precipitation type, amount, and distribution. Concentrations of sodium chloride up to 600 ppm in the soil can stimulate growth of grasses, but injury becomes more pronounced as concentrations increase from 1,000 to 5,000 ppm. These are very high and unusual concentrations, as indicated by a Maine study (*Highway Research Record 1993:1-7* (Hutchinson & Olson, 1967)) in which the average concentrations for 22 highway sites selected at random, some of which had been salted for 20 years, were 275 ppm sodium and 100 ppm chloride at a 15-centimeter (6 inch) depth

immediately adjacent to the road. The EPA uses 250 ppm as an upper limit for chloride in drinking water in its secondary regulations. Trout are adversely affected at 400 ppm.

Field studies measured salt concentrations of soils near the Guanella Pass summit (*Literature Review and Report of Limited Field Examination, Use of Road Salts on Guanella Pass Road*). The highest contents of sodium, potassium, calcium, and magnesium measured were, respectively, 0.184, 0.020, 0.120, and 0.032 ppm. Drinking water criteria for these elements are 10 ppm for sodium and 340 ppm for potassium. There are no drinking water criteria for calcium and magnesium. Criteria for effects on fish and wildlife are 85 ppm sodium, 50 ppm potassium, 52 ppm calcium, and 14 ppm for magnesium. Although there is evidence of off-road transport of salts to accumulation sites in adjacent natural ecosystems, the levels of accumulation to date are not likely to cause any negative effects on plants present, and no damage to native vegetation cover attributable to salt was observed during field studies.

**Table III-8**  
**Water Quality Criteria – Chloride/MgCl<sub>2</sub>/NaCl**

Chemical	Use/Affected Environment	Concentration (parts per million)	Comment
Cl	Municipal	250	U.S. Public Health Service 1962 Drinking Water Standards
Cl	Stock & Wildlife	1500	Safe level for cattle, sheep, swine, chickens
Cl	Irrigation	100-1500	Harmful to most plants
Cl	Fish & Aquatic Life	400	Harmful to trout
Cl	Fish & Aquatic Life	4000	Harmful to bass, pike, and perch
MgCl <sub>2</sub>	Municipal	168	Level will prevent salty taste
MgCl <sub>2</sub>	Fish & Aquatic Life	476	Lethal to minnows in 4 to 6 days
NaCl	Municipal	200-900	Taste threshold
NaCl	Municipal	250	EPA secondary regulations
NaCl	Municipal	1000-1500	Renders drinking water unpalatable
NaCl	Stock & Wildlife	<1025	Usually causes no adverse effects
NaCl	Fish & Aquatic Life	5850	Not harmful to salmon eggs
NaCl	Fish & Aquatic Life	2000	Recommended limit in fresh waters

*Source: Water Quality Manual, Volume V, "Chemical, Bacteriological, and Ecosystem analysis of Water from Highway Sources for Environmental Impact Studies"*

## *Environmental Consequences*

The ability of an alternative to repair existing drainage and erosion problems is partially dictated by the type of reconstruction used in that alternative. Full reconstruction provides the most opportunity for repair, followed by light reconstruction, rehabilitation, and no action. The other major factor in reducing sedimentation is hardening of the roadway surface.

Construction provides opportunities to improve existing conditions that degrade water quality, such as eroding roadway ditches, shoulders, and embankments as well as deteriorated or insufficient culverts. Although many areas would need to be treated on a case by case basis, many benefits are obtained through the employment of BMPs and an aggressive revegetation program. BMPs for erosion and sediment control are used as both temporary measures during construction and permanent measures for long-term pollution prevention. The BMPs committed for this project are outlined in the Technical Memorandum: *Best Management Practices (BMPs)* (FHWA, June, 1998). Typical BMPs which will be used are described under **Chapter IV.C: Water Quality**. CWA Section 401 (State Water Quality Certification) and 402 (NPDES) permits will be required for all build alternatives. These permits are obtained from the WQCD of the CDPHE and the EPA, respectively.

### **Erosion of New Slopes**

#### Alternative 1

Alternative 1 would not create any new slopes.

#### Alternatives 2 - 6

Even with the implementation of BMPs, increased erosion and associated sedimentation is expected for all build alternatives initially during construction and from new slopes before vegetation becomes established. Runoff from new slopes would contain higher concentrations of metallic ion constituents which adversely affect aquatic life, but this would be minimized by topsoiling and revegetating. Repair of eroding areas along the road would reduce the contribution of these constituents. Based on the size of the watersheds and relatively large contributions of these constituents from sources outside of the immediate project area, it is not anticipated that any of these alternatives would create a noticeable change in these metallic ion constituents.

Increased erosion from new cuts and fills is mainly a short-term impact before slopes are stabilized and vegetation becomes established. Steep slopes that can not revegetate will be composed mainly of solid rock. In general, slopes are designed to be less steep than the existing slopes to promote revegetation. The erosion control plan will address newly constructed cut and fill slopes. Silt fences, straw bales, temporary seeding and matting, and sediment ponds will be used as necessary to reduce the amount of sediment that reaches streams.

Erosion from new slopes for each alternative would be proportional to the amount of reconstruction, which is 100 percent under Alternatives 2 and 3, 51 percent under Alternatives 4 and 5, and 37 percent under Alternative 6. Alternative 6 will also have less impact because the roadway cross section is narrower than the other alternatives, and because only half of the reconstruction is full reconstruction.

## Repair of Existing Erosion/Sedimentation Problems

### Alternative 1

Alternative 1 does not allow for the repair of any existing erosion or sedimentation problems. Sedimentation problems identified in the Affected Environment section would not be corrected.

### Alternatives 2 - 6

The effectiveness of an alternative in reducing erosion and sedimentation is proportional to the amount of surface hardening and to the amount of reconstruction, which provides opportunity for repairing existing erosion problems and improving drainage. Repairs and improvements can be made under any type of construction, from full reconstruction to rehabilitation. Although the rehabilitation and light reconstruction types of construction do not preclude environmental enhancement work outside of the normal construction limits, alternatives that have more construction provide more opportunities to perform this work.

The FS report *Sedimentation Problems Identified on the Guanella Pass Road Aquatic and Soil Resource Recommendations* (October 25, 2001) identifies erosion control priorities along Guanella Pass Road. For any type of construction, from rehabilitation to full reconstruction, existing problems would be addressed in accordance with the findings of this report where practicable. There are restrictions on the amount of work that can be done under Alternative 5 in the rehabilitation areas, and under Alternative 6 in the light reconstruction and rehabilitation areas. Alternatives 2 and 3 have the most construction, followed by Alternatives 4 and 5, with 51 percent full reconstruction, then Alternative 6 with 37 percent reconstruction (full and light combined) and 63 percent rehabilitation.

Overall, Alternative 2 provides the greatest degree of erosion and sedimentation improvement because it reconstructs and paves the entire road, followed in effectiveness by Alternatives 6, 5, 4, then 3. Alternatives 5 and 6 would have very similar effects because they both have about same amount of surface hardening (either pavement or alternative surface type), and although Alternative 5 has more reconstruction, Alternative 6 has a narrower roadway width. Alternative 5 would be better than Alternative 4 because some sections of Alternative 4 would not be reconstructed or rehabilitated. Alternative 3 would have a gravel surface for 52 percent of the route. Sections of any alternatives that are resurfaced with gravel would initially be more stable than the existing roadway; however, these sections would deteriorate faster than a paved surface, and would require frequent maintenance.

Roadway fill slopes that are being eroded by streams would generally be repaired by replacing the loose soil at the edge of the road with large rock. Other eroding cut and fill slopes would be topsoiled and revegetated. Settling basins, additional culverts, energy dissipaters, and other erosion control features would be included in reconstruction sections. At stream crossings throughout the route, culverts with natural bottoms would be placed to allow the channels to change elevation, within limits, without restriction. Where practicable, the roadway would be moved away from the stream, allowing it to meander more naturally. In other cases, retaining walls or riprap would be used to stabilize the roadway embankment and prevent further erosion. Table III-9 summarizes and compares the water quality-related characteristics of all alternatives.

**Table III-9  
Comparison of Alternatives by Water Quality-Related Roadway Characteristics**

	Major Stream Crossings	Number of New Culverts	Paved Ditch Meters (Feet)	Unpaved Ditch Meters (Feet)	Curb & Gutter Meters (Feet)	Road within 50 Meters of Stream Meters (Feet)	Surface Type Gravel	New Cut or Fill Slopes Hectares (Acres)	Existing Stable Slopes to Remain Hectares (Acres)	Existing Unstable Slopes to Remain Hectares (Acres)	Temporary Erosion Surfaces* Hectares (Acres)	Permanent Erosion Surfaces** Hectares (Acres)
Alternative 1	10	0	0 (0)	38,014 (124,724)	0 (0)	14,186 (46,544)	52%	0 (0)	14.02 (34.64)	14.61 (36.10)	28.72 (70.97)	28.72 (70.97)
Alternative 2	8	200	9,720 (31,891)	26,691 (87,573)	1,761 (5,778)	14,045 (46,082)	0%	38.73 (95.7)	4.82 (11.91)	8.32 (20.56)	54.03 (133.52)	8.32 (20.56)
Alternative 3	8	200	9,720 (31,891)	26,691 (87,573)	1,761 (5,778)	14,045 (46,082)	52%	38.73 (95.7)	4.82 (11.91)	8.32 (20.56)	68.57 (169.43)	26.44 (65.33)
Alternative 4	8	105	2,722 (8,931)	33,743 (119,711)	1,761 (5,778)	14,045 (46,082)	15%	22.79 (56.31)	9.55 (23.60)	10.02 (24.76)	39.50 (97.60)	14.21 (35.12)
Alternative 5	8	200	2,722 (8,931)	33,743 (119,711)	1,761 (5,778)	14,045 (46,082)	15%	22.79 (56.31)	9.55 (23.60)	10.02 (24.76)	40.56 (100.23)	14.21 (35.12)
Alternative 6	8	200	2,300 (7,500)	35,900 (117,800)	1,761 (5,778)	14,045 (46,082)	14% ***	15.41 (38.08)	11.13 (27.50)	11.63 (28.74)	36.15 (89.32)	15.22 (37.60)

\* Temporary erosion surfaces are calculated as the sum of the areas of gravel road surface, unstable slopes, new slopes, and foreslopes.

\*\* Permanent erosion surfaces are calculated as the sum of areas of gravel road surface and unstable slopes.

\*\*\* 30 percent of Alternative 6 is proposed to be surfaced with the stabilized gravel option of macadam.

It is expected that the long-term benefits of stabilizing existing erosion problems and reducing sediment runoff, along with implementation of high altitude revegetation techniques, will provide a net benefit to water quality.

## **Deicing Salts**

### All Alternatives

Although there are no plans to change the existing frequency of winter maintenance, an increased demand to keep an improved road open is likely for all build alternatives. Sites where roadside runoff is collected could be expected to possess higher concentrations of salts. This includes not only roadside ditches but also areas where water is impounded, such as beaver dams or reservoirs. A worst-case condition could result when salt that has accumulated in snow along the road is released into streams by a sudden melt. This is more likely to occur when a road is plowed so that snow and salt are moved into or adjacent to streams. Since salt is not normally used on gravel sections of road, effects would be greater for those alternatives with greater pavement or hardened surface. The most impact would be expected under Alternatives 2, followed by 6, then 4 and 5, then 3. Alternative 1 would have similar effects to Alternative 3 because both have about 52 percent gravel. Although salt would probably not be used as a deicer on gravel sections, this would be at least partially offset by the application of  $MgCl_2$ , which would be needed as a dust suppressant.

Based on the flow-weighted mean concentration calculations and using a conservative average of 0.5 tons/mile/year of NaCl for deicing, it would be expected that the mean concentration of NaCl would be about 0.5 ppm. Water quality criteria for NaCl are included in Table III-8. To exceed drinking water criteria, sodium levels have to increase by more than 50 times the highest salt concentration measured in the Guanella Pass soil samples. To affect fish and wildlife, levels have to increase more than 400 times. More detailed information is included in the *Literature Review and Report of Limited Field Examination, Use of Road Salts on Guanella Pass Road* (MK Centennial and ESCO Associates, Inc., April, 1997) and *Assessment of Water Quality, Road Runoff, and Bulk Atmospheric Deposition, Guanella Pass Area, Clear Creek and Park Counties, Colorado, Water Years 1995-1997* (USGS, 2001).

If winter closure or no winter maintenance is implemented for a portion of the road, deicing salt use will not be necessary for the roadway that lies between closure points or within the area of no winter maintenance.

## **Roadway Contaminants**

### All Alternatives

Pollutants come from a variety of vehicle and roadway sources: pavement wear, tire wear, auto-body rust, motor oil, grease, brake lining wear, antifreeze and hydraulic fluid leaks, and exhaust, including engine wear components as well as combustion products. Metals such as lead, zinc, iron, and copper are included along with petroleum products and other chemical compounds. The amount of these contaminants and their effects on the surrounding environment is to a large extent proportional to the amount of traffic on the road. The *FHWA Report on Effects of Highway Runoff on Receiving Waters, Vol. II* (August, 1985), concluded that rural highways with traffic volume under 30,000 vpd (average) exert minimal or no impact on the aquatic components of most receiving waters from these types of pollutants.

Chemical binders in the proposed gravel surface options may contribute to the roadway contaminants already present including those from the vehicles and maintenance activities. The amount of these contaminants and their effects on the surrounding environment to a large extent is proportional to the traffic volume on the road. The FHWA has investigated the potential for leaching impacts that might result from the use of alternative surface types. The literature review revealed that very little research has been performed for the non-asphalt surfacing types (Magnesium Chloride/PennzSupress D, Road Oyl, and Permazyme). Table III-10 presents the research data regarding the potential leaching and runoff impact the Alternative 6 surfacing alternatives have on water quality.

**Table III-10**  
**Potential Leaching and Runoff Impacts of the Alternative Surface Types**

Surface Type	Impact(s)
Magnesium Chloride/PennzSupress D	These agents contain no solvents and are non-corrosive.
Macadam Construction	This type of surface includes the use of liquid asphalt as a binder. Liquid asphalt is waterproof and tightly binds to the aggregate. As a result, no leaching is anticipated from this surface type.
Road Oyl	Testing was done on Road Oyl as part of the U.S. EPA's National Estuary Program. Samples of soil freshly treated with Road Oyl emulsion were collected from a road construction project and analyzed for oil and grease, volatile organic analysis, polynuclear aromatic hydrocarbons, and total levels of metals: Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, Silver and Zinc. The samples were also analyzed via a full Toxicity Characteristics Leaching Procedure. The levels for all test parameters were below method detection limits (they were "nondetected," or ND). No hazardous components were identified and no leachable levels of any of the test parameters were identified.
Permazyme	Manufacturer's specification indicates that Permazyme is not harmful to plant life, is non-toxic and non-hazardous. Permazyme is frequently used as a lake, pond, and irrigation canal liner. It is non-toxic and approved for use by the EPA.
Recycled Asphalt	This type of surface includes the use of liquid asphalt as a binder. Liquid asphalt is waterproof and tightly binds to the aggregate. As a result, no leaching is anticipated from this surface type.
Chip Seal over Asphalt	This type of surface includes the use of liquid asphalt as a binder. Liquid asphalt is waterproof and tightly binds to the aggregate. As a result, no leaching is anticipated from this surface type.

## Dust

Dust not only settles on water directly, but is washed into streams from wherever else it settles. The dust contribution by each alternative is proportional to the amount of unpaved roadway (see **Chapter II.D.2: Percentage of Pavement Sections**). Although dust affects air and visual quality, it does not appear, based on the USGS study, that dust is a major contributor to stream sediment.

Alternative 1 (No Action) and Alternative 3 are expected to produce the greatest amounts of dust of all the alternatives due to the high proportion of unpaved road associated with these



alternatives (52 percent). Alternative 2, with no unpaved portion, would produce the least dust. Similar amounts of dust would be produced by Alternatives 4 – 6, with 12 to 15 percent gravel roadway. Effects to water quality from leaching of dust suppressant chemicals would also occur in proportion to the amount of gravel surfacing.

### **Dust Control Chemicals**

Based on water quality criteria (Table III-8), the amount of chemical applied (typically  $MgCl_2$ ) is not sufficient to adversely affect water quality. These chemicals may, however, adversely affect plant life immediately adjacent to the road, and may attract animals in search of salt to the road where they are at risk from vehicles. Potential for impacts from dust control chemicals is greater for the alternatives with less hardened surfacing. Alternative 2 would have no gravel, Alternative 6 would have 14 percent gravel, Alternatives 4 and 5 would have slightly more gravel, and Alternatives 1 and 3 would be the worst case with each having about 52 percent gravel.

### **Accidental Spills**

The probability of chemical spills into streams increases with increased traffic, higher speeds, and more commercial traffic; however, all construction alternatives incorporate consistent design standards that minimize the conditions that contribute to accidents. Although the proposed improvements are not intended to promote high-speed or commercial traffic, the counties and/or Georgetown may find it appropriate to place restrictions on commercial traffic at some future time. Reporting requirements for spills that might occur during construction will be included in any construction contract.

## **2b. Wetlands**

### ***Affected Environment***

Wetlands are protected under Section 404 of the CWA. The EPA's Section 404(b)(1) guidelines state that impacts to wetlands must be avoided where practicable. If avoidance is not practicable, then impacts must be minimized. Mitigation is to be considered only after avoidance and minimization alternatives have been exhausted.

A CWA Section 404 permit is needed for this project. The project development process has complied with the NEPA/404 concurrent process for the Rocky Mountain Area, which is defined in the *Statement of Principle-Wetland Conservation Related to Transportation Projects* (1994).

Wetlands along the existing Guanella Pass Road were identified, sampled, and mapped in accordance with the *U.S. USACE 1987 Wetlands Delineation Manual* and USFWS wetland plant affinity ratings. Sample sites were selected to represent vegetation types observed in the study corridor that may possess wetland characteristics. Fourteen wetland plant community types were identified as potentially disturbed by at least one of the project alternatives. Each of these community types is described in detail in the report *Wetland Survey Technical Memorandum* (MK Centennial, 1997).

Wetlands possess a variety of important functions and values. Specific functions and values of the wetlands to be disturbed are often used for guidance in selecting appropriate wetland mitigation. The Wetland Evaluation Technique (WET) analysis was used to determine wetland functions and values for the principal wetland types that could be affected by roadway

construction. WET evaluates 14 wetland functions and rates each function for its effectiveness. The results of the analysis show that the functions of sediment stabilization and retention, use by wildlife in breeding, and support of wetland-dependent migratory species were the highest-rated categories. Sensitive biological resources associated with wetlands include the boreal toad and the plant communities within the fen at Geneva Park.

The most extensive wetland community type adjacent to the road is the Tall Willow Shrubland. This type of wetland has at least moderate sustained groundwater discharge and at least a moderate effect on floodflow. The dense root structure of the willows provides a high level of sediment stabilization. The output of leaf fall into aquatic systems is important to the productivity of coldwater fisheries of the area. Support for wildlife breeding is high for birds, but moderate for wildlife in general. Although fishermen try to avoid tall willow stands as a matter of convenience, they nonetheless have value as part of the fly-fishing experience.

A fen is a type of wetland which resembles a bog or meadow and supports marsh-like vegetation including sedges and wildflowers. They differ from bogs in that they are primarily fed by groundwater and are not dominated by mosses. Fens are located at high elevations and form at low points in the landscape or near slopes where groundwater intercepts the soil surface, maintaining a constant water level. Soils of fens are formed from the decomposed organic materials of earlier generations of plants and at these elevations, fens may be 10,000 years old or more. Because the rate of soil accumulation is so slow, these ecosystems are considered to be essentially irreplaceable. Mitigation for loss of fens is problematic, as there are no known methods to create new functional fens. Fens provide important benefits for a watershed, including improving water quality and providing habitat for many species. Fens were located within the survey corridor between stations 9+150 to 9+300 and 27+850 to 28+870.

### ***Environmental Consequences***

Wetland areas were surveyed in the field, and the data was added to the computer design files to determine potential effects. Alignments were adjusted to avoid impacts where possible, and reduce impacts where they were unavoidable. Field reviews were conducted with the USACE and EPA to determine where design adjustments could be made to avoid or reduce impacts. Adjustments included alignment changes, grade changes, and addition of retaining walls. Additional adjustments during final design may further reduce impacts. Impacts to wetlands are shown in Table III-11 and Figures III-7a through III-7c. The figures show the locations of the larger wetland impacts of each alternative in the roadway corridor. Some of the smaller wetland impacts are not shown on these figures.

All wetlands affected are considered to be jurisdictional, and are regulated by the USACE under Section 404 of the CWA. The permit application will need to show that all practicable measures have been taken to avoid impacts to wetlands.

Impacts to wetlands were determined for each habitat community type. The most abundant wetland type affected by all build alternatives is the Tall Willow Shrubland. This is a montane riparian wetland common to the roadway corridor. In-kind mitigation for impacts would need to focus on providing this type of habitat.

**Table III-11  
Wetland Impacts by Alternative**

Segment		Alternative					
		1	2	3	4	5	6
1+000 to 6+000	Hectares	0.00	0.06	0.06	0.00	0.00	0.00
	Acres	0.00	0.14	0.14	0.00	0.00	0.00
6+000 to 9+000	Hectares	0.00	0.04	0.04	0.04	0.04	0.01
	Acres	0.00	0.09	0.09	0.09	0.09	0.03
9+000 to 14+000	Hectares	0.00	1.68	1.68	0.10	0.10	0.05
	Acres	0.00	4.16	4.16	0.24	0.24	0.12
14+000 to 18+000	Hectares	0.00	0.48	0.48	0.04	0.04	0.03
	Acres	0.00	1.19	1.19	0.09	0.09	0.07
18+000 to 22+000	Hectares	0.00	0.04	0.04	0.04	0.04	0.02
	Acres	0.00	0.11	0.11	0.11	0.11	0.04
22+000 to 24+500	Hectares	0.00	0.16	0.16	0.16	0.16	0.05
	Acres	0.00	0.40	0.40	0.40	0.40	0.13
24+500 to 28+500	Hectares	0.00	0.33	0.33	0.33	0.33	0.12
	Acres	0.00	0.82	0.82	0.82	0.82	0.30
28+500 to 32+000	Hectares	0.00	0.05	0.05	0.05	0.05	0.00
	Acres	0.00	0.12	0.12	0.12	0.12	0.00
32+000 to 36+000	Hectares	0.00	0.04	0.04	0.00	0.00	0.00
	Acres	0.00	0.09	0.09	0.00	0.00	0.00
36+000 to End	Hectares	0.00	0.08	0.08	0.00	0.00	0.00
	Acres	0.00	0.20	0.20	0.00	0.00	0.00
<b>Wetlands</b>	<b>Total Hectares →</b>	<b>0.00</b>	<b>2.96</b>	<b>2.96</b>	<b>0.76</b>	<b>0.76</b>	<b>0.28</b>
	<b>Total Acres →</b>	<b>0.00</b>	<b>7.32</b>	<b>7.32</b>	<b>1.87</b>	<b>1.87</b>	<b>0.71</b>
<b>Fens*</b>	<b>Total Hectares →</b>	<b>0.00</b>	<b>0.05</b>	<b>0.05</b>	<b>0.04</b>	<b>0.04</b>	<b>0.00</b>
	<b>Total Acres →</b>	<b>0.00</b>	<b>0.09</b>	<b>0.09</b>	<b>0.09</b>	<b>0.09</b>	<b>0.00</b>

\* Fen totals are included in the wetland totals.

Winter closure of Guanella Pass Road is not expected to impact any wetlands at any of the closure points. Parking areas are in areas already disturbed by former parking areas or where there are no wetland or riparian communities.

Alternative 1 would cause no additional direct impacts to existing wetlands; however, Alternative 1 would impact wetlands through road maintenance activities that cause excess road materials to be deposited into wetlands. Sediment from gravel surfacing and eroding roadway slopes would continue to degrade wetlands.

More detailed analyses of this topic are provided in the *Guanella Pass Road Colorado Forest Highway 80 Wetland Survey Technical Memorandum* (MK Centennial and ESCO Associates, Inc., September 1997) and the *Revised Wetland Survey Technical Report* (MK Centennial, June 2002).

### ***Only Practicable Alternative Finding***

This finding relates only to Alternative 6, the Preferred Alternative. If another alternative is selected in the Record of Decision, this finding will need to be revised.

In accordance with Executive Order 11990, it has been determined that there are no practicable alternatives to construction in wetlands. Alternative 1 (No Action) is not considered practicable because it does not address the needs for the proposed project as detailed in EIS Purpose and Need section. Alternatives 2 through 5 each would impact substantially more wetlands than Alternative 6. The proposed roadway design for Alternative 6 has been reviewed for each wetland impact site for the purpose of avoiding impacts to the maximum extent practicable. Where impacts could not be avoided, impacts were minimized to the maximum extent practicable. Reviews included office design reviews and field reviews with the regulatory agencies.

Based on the above considerations, it is determined that there is no practicable alternative to the proposed construction in wetlands and that the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use. Alternative 6 would affect the least amount of wetland area of the build alternatives.

## **2c. Riparian Communities**

### ***Affected Environment***

Riparian communities are plant communities adjacent to water that are at least moderately affected by their proximity to water. These areas provide habitat for many species, as well as functions similar to wetlands such as sediment stabilization and toxicant retention. The riparian areas which qualify as wetlands were addressed in the wetland study summarized above. The less well-wetted areas were treated separately. Of the 38.2 kilometers (23.7 miles) of existing roadway, approximately 14 percent is within ten meters of a riparian area.

### ***Environmental Consequences***

Winter closure of Guanella Pass Road is not expected to impact any riparian communities at any of the closure points. Parking areas are in areas already disturbed by former parking areas or where there are no wetland or riparian communities.

Alternative 1 would cause no direct impacts to riparian communities; however, it would impact riparian communities through road maintenance activities that cause excess road materials to be deposited into wetlands. Sediment from gravel surfacing and eroding roadway slopes would continue to degrade riparian communities. Alternatives 2 and 3 would impact about 0.98 hectares (2.44 acres), Alternatives 4 and 5 would impact about 0.23 hectares (0.59 acres), and Alternative 6 would impact about 0.13 hectares (0.32 acres) of non-wetland riparian communities.

## **2d. Other Waters of the U.S.**

### *Affected Environment*

The term “other waters of the U.S.” refers to waters of the U.S. other than wetlands. Waters of the U.S. in the project area include streams and other water bodies as well as wetlands. Where roadway reconstruction occurs at a stream crossing, there is usually some filling into the stream channel to accommodate the increased width of the new road. A Section 404 permit from the USACE is needed for these fills. The existing road crosses Threemile Creek, Scott Gomer Creek, Duck Creek (4 crossings), Naylor Creek, Leavenworth Creek, and South Clear Creek.

Channel stability affects the ability of streams to support beneficial uses. While it is important that construction not introduce destabilizing influences, it is also important that channels not be confined unnaturally. The intent of channel stabilization is to give the stream sufficient freedom to behave naturally while at the same time protecting roadway slopes from erosion.

### *Environmental Consequences*

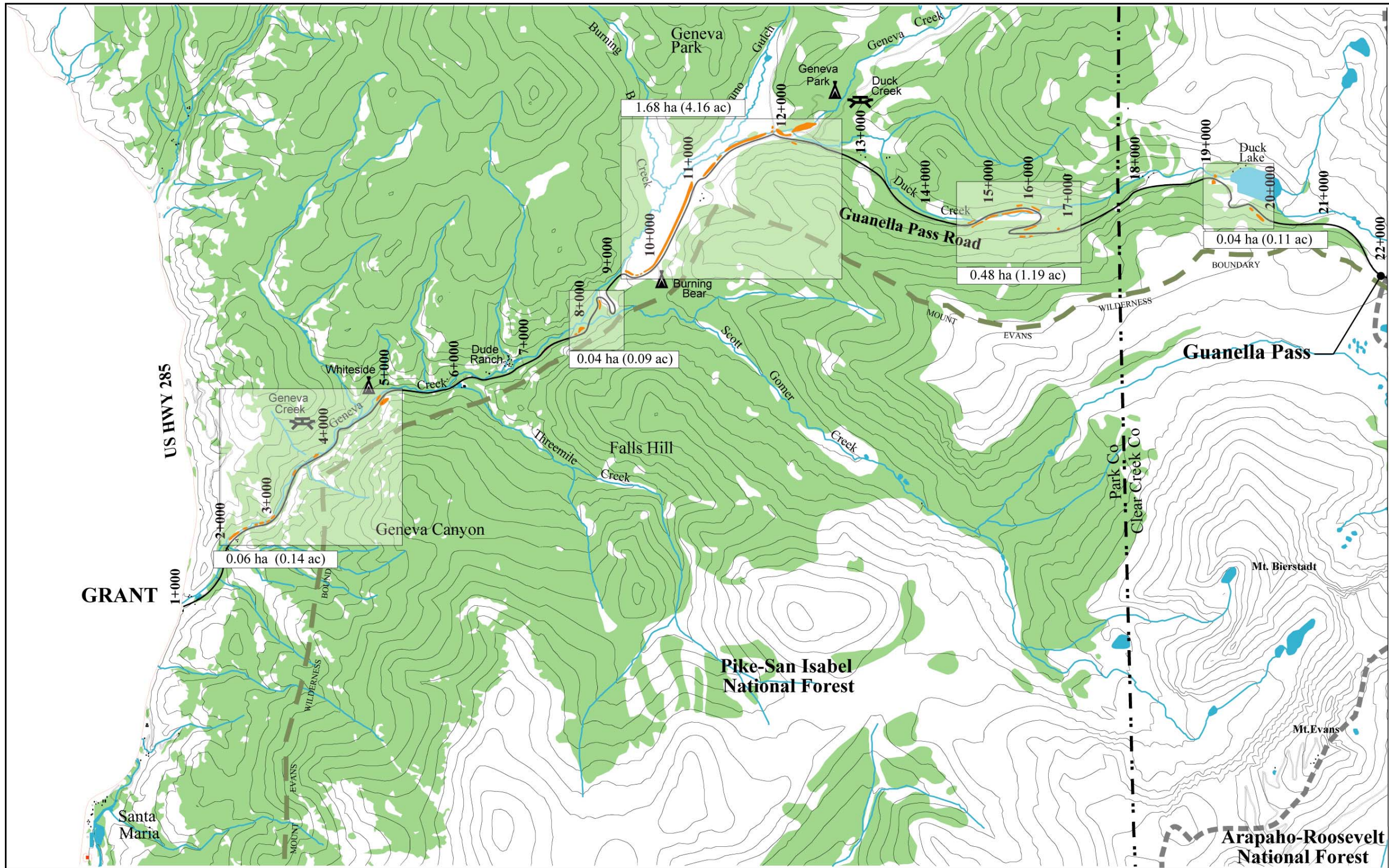
Riprap, retaining walls, and other means would be used to stabilize roadway slopes along channels for any build alternative; however, none of the alternatives would reduce any channel cross-sectional areas. Riprap would be placed where the bank is being undermined, not in the existing channel. For riprap and retaining walls, the existing embankment would be excavated and the stabilizing material would be placed in the void. Where the road is close to a channel, any needed road widening would be done away from stream channels. No channels will be made narrower under any of the alternatives.






The only anticipated channel change is where Duck Creek was previously moved 50 meters (160 feet) from its historic channel to accommodate the skewed road near the Alpendorf approach road. The road would be realigned to avoid the northerly two Duck Creek crossings. For any build alternative, the intersection would be squared up at right angles and the stream returned to its historic channel location. The effective length of the channel would remain the same to prevent instability. A permit from the USACE is needed for this work.

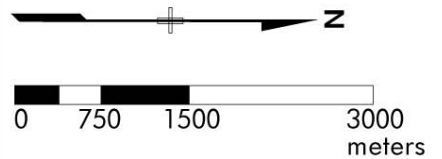
## **3. Visual Quality**

### *Affected Environment*

The visual analysis included procedures from FS’s Visual Management System and the FHWA’s guidelines for visual impact assessments. The visual analysis consisted of examining the view from the road and of the road considering the visual design criteria. The visual design criteria are the elements that make up the visual character of the corridor. The visual design criteria for this analysis included the road visibility, the scenic quality, and the landscape sensitivity. The scenic quality of the area was based on the contrasting landforms, color, and texture of the surrounding landscape. The landscape sensitivity is the capacity of the landscape to accept change. The elements included in the landscape sensitivity were the slope angles, vegetation cover, proximity to water, soil types, solar exposure, the existing scenic quality, and the existing disturbance in the area.

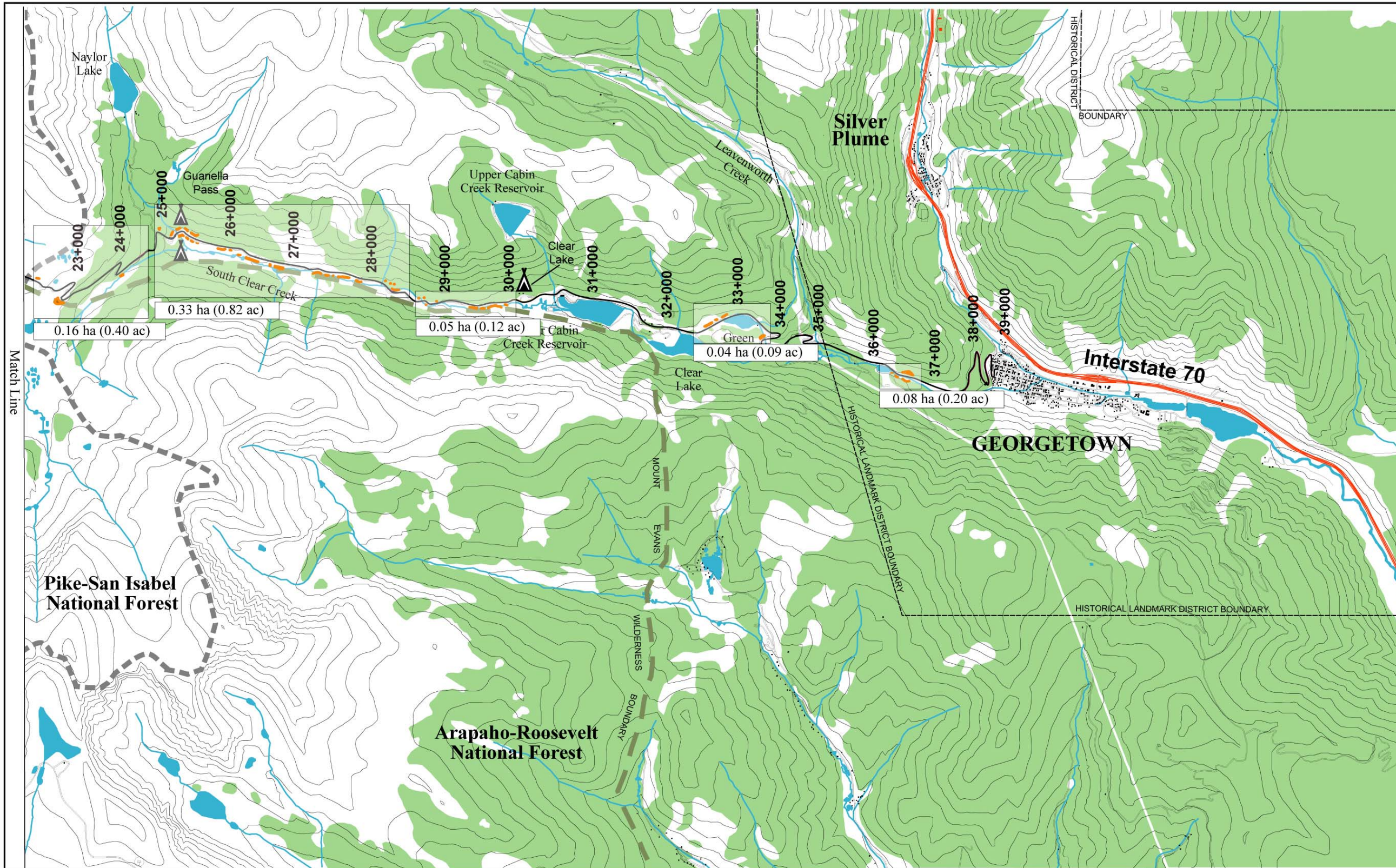


-  Mount Evans Wilderness Boundary
-  Pike-San Isabel/ Arapaho-Roosevelt National Forest Boundary
-  Picnic Area
-  Campground
-  Wetland Impacts

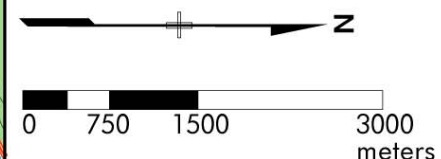


Approximate Scale  
 1:60,000  
 1" = 5000'  
 Contour Interval  
 12 meters (40 feet)

**Figure III-7a**  
*Alternative 2 or 3*  
**Wetland Impacts**

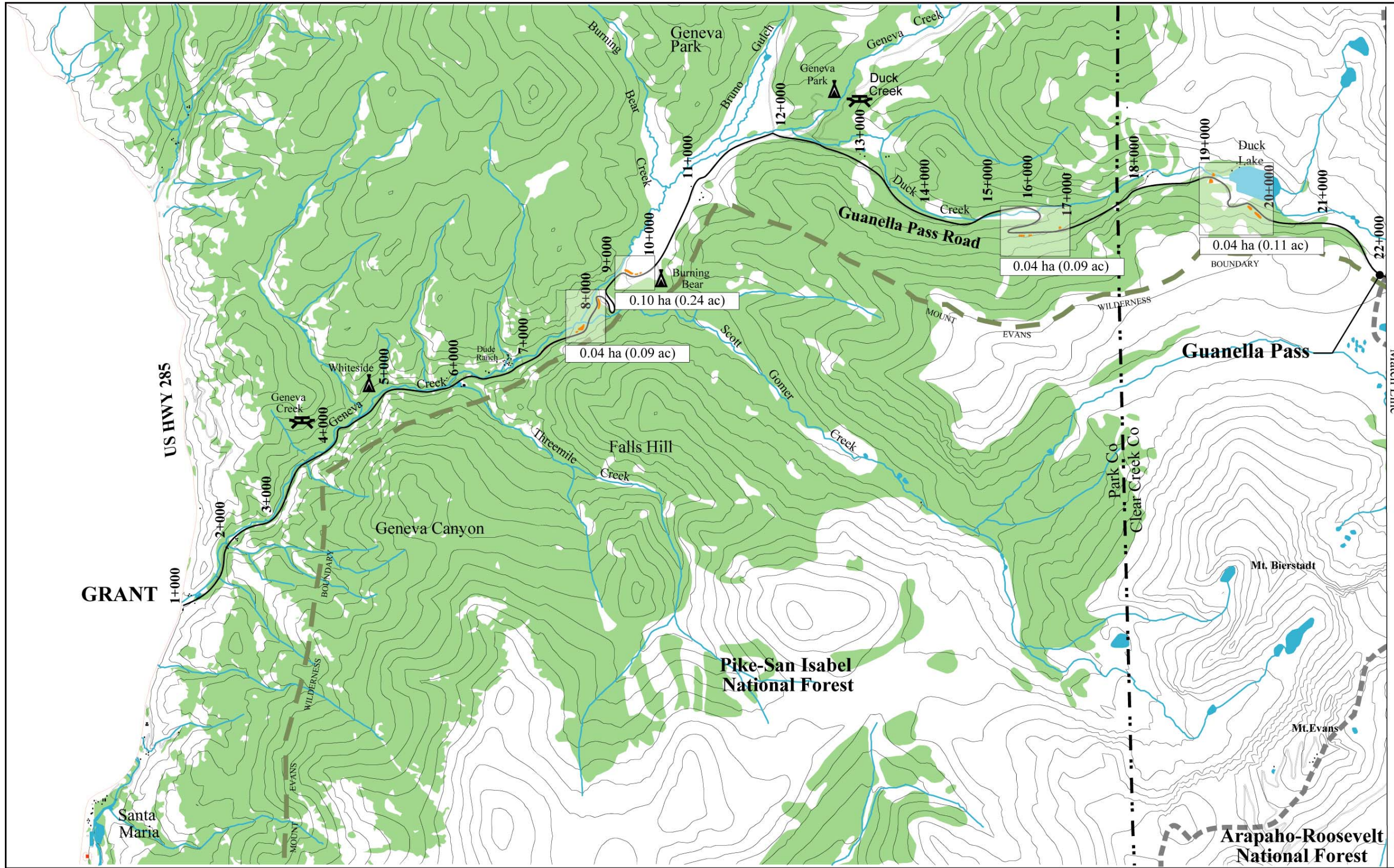


- Georgetown-Silver Plume National Historical Landmark District Boundary
- Mount Evans Wilderness Boundary
- - - - Pike-San Isabel/ Arapaho-Roosevelt National Forest Boundary
- ⛺ Picnic Area
- ▲ Campground
- Orange Box Wetland Impacts

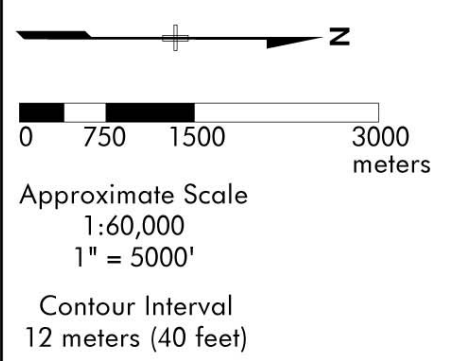


Approximate Scale  
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 1" = 5000'  
 Contour Interval  
 12 meters (40 feet)

**Figure III-7a (cont.)  
 Alternative 2 or 3  
 Wetland Impacts**

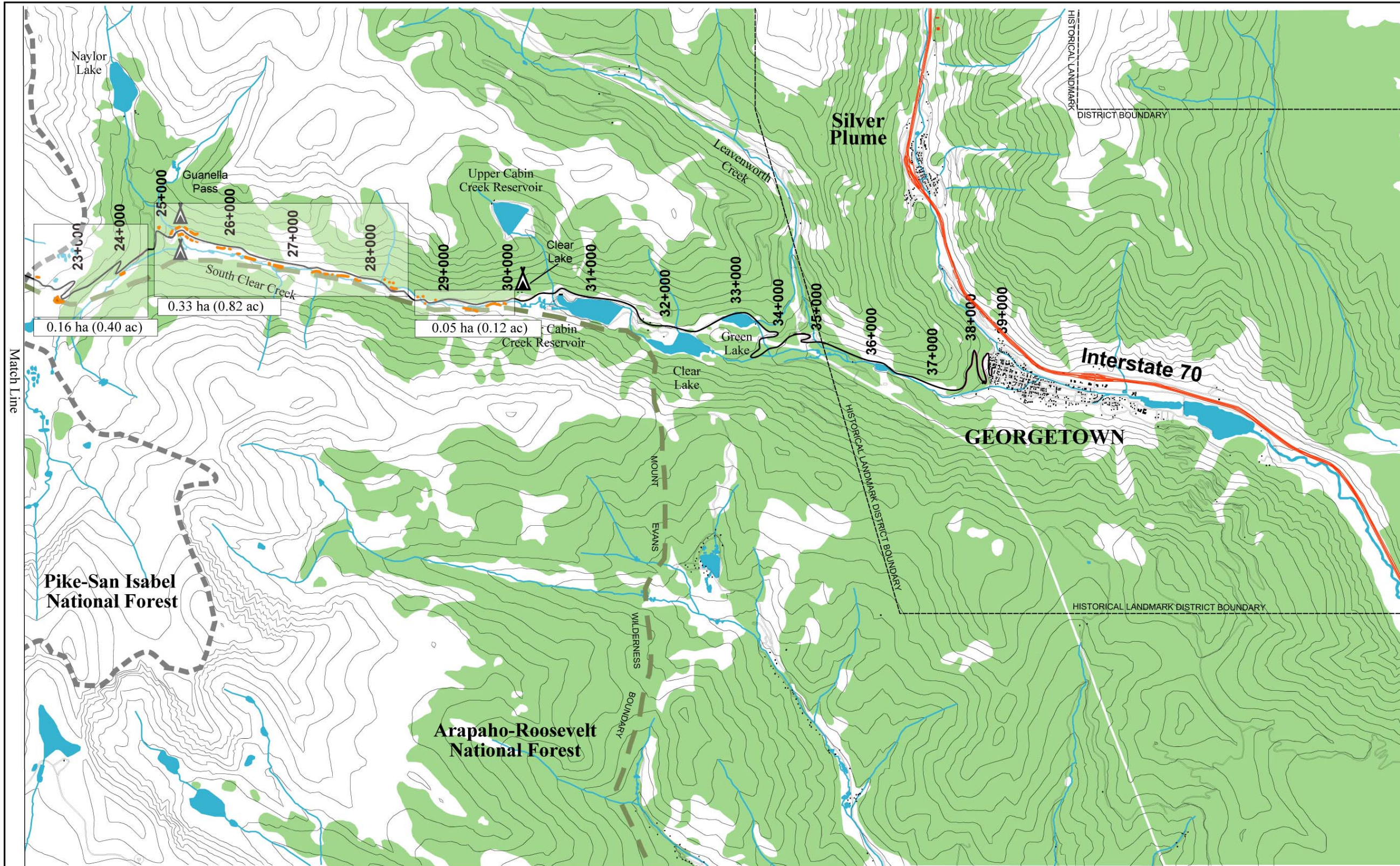


- Mount Evans Wilderness Boundary
- Pike-San Isabel/ Arapaho-Roosevelt National Forest Boundary
- Picnic Area
- Campground
- Wetland Impacts



**Figure III-7b**  
*Alternative 4 or 5*  
**Wetland Impacts**





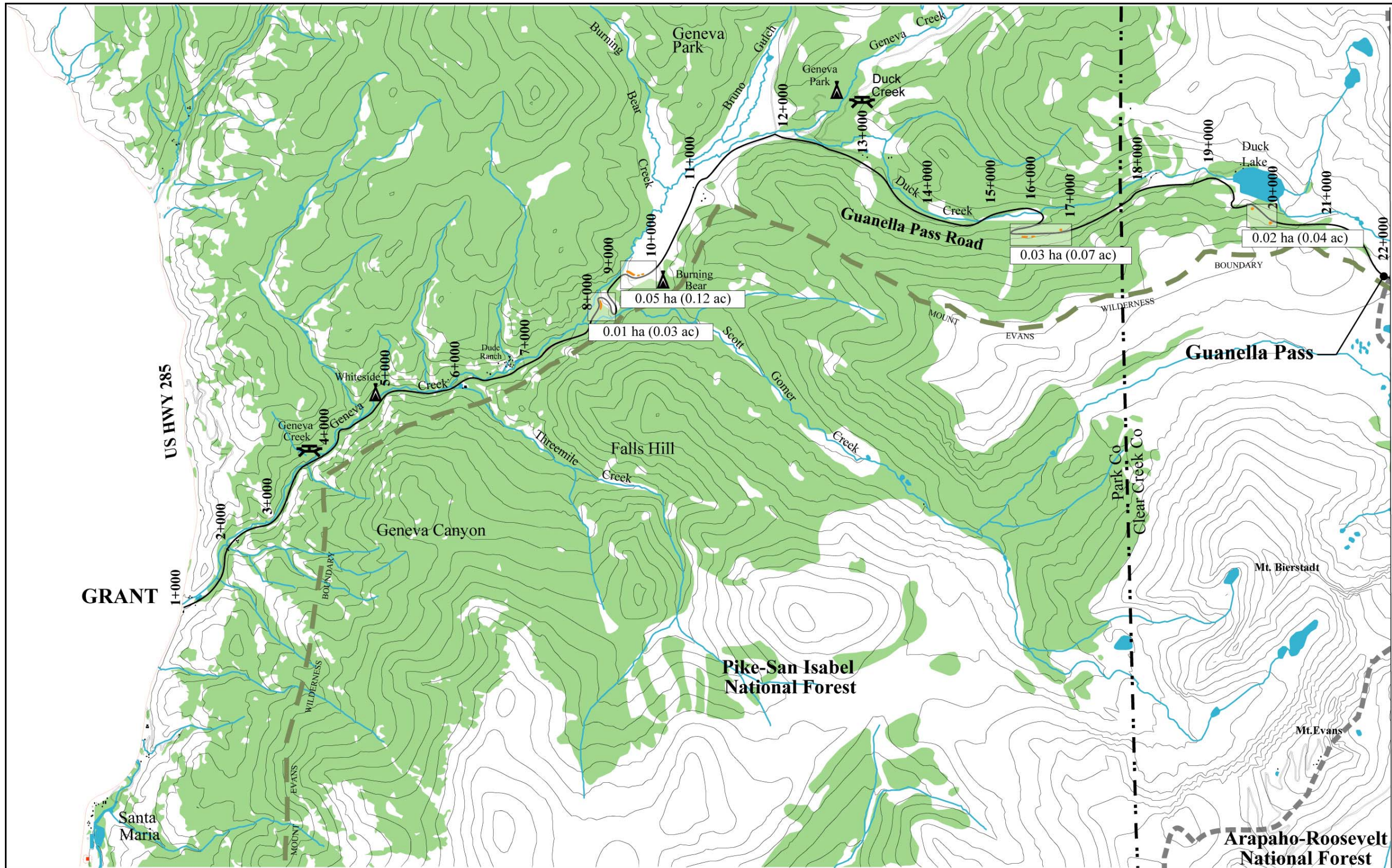
- Georgetown-Silver Plume National Historical Landmark District Boundary
- Mount Evans Wilderness Boundary
- Pike-San Isabel/Arapaho-Roosevelt National Forest Boundary
- ⛶ Picnic Area
- ▲ Campground
- Orange Box Wetland Impacts






0 750 1500 3000 meters

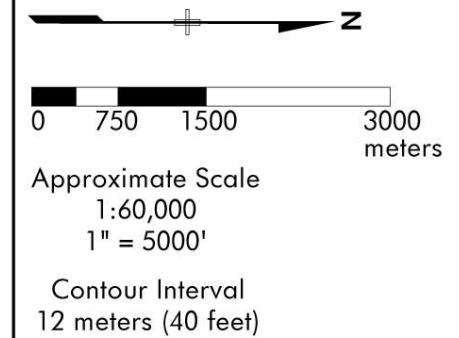
Approximate Scale  
 1:60,000  
 1" = 5000'

Contour Interval  
 12 meters (40 feet)

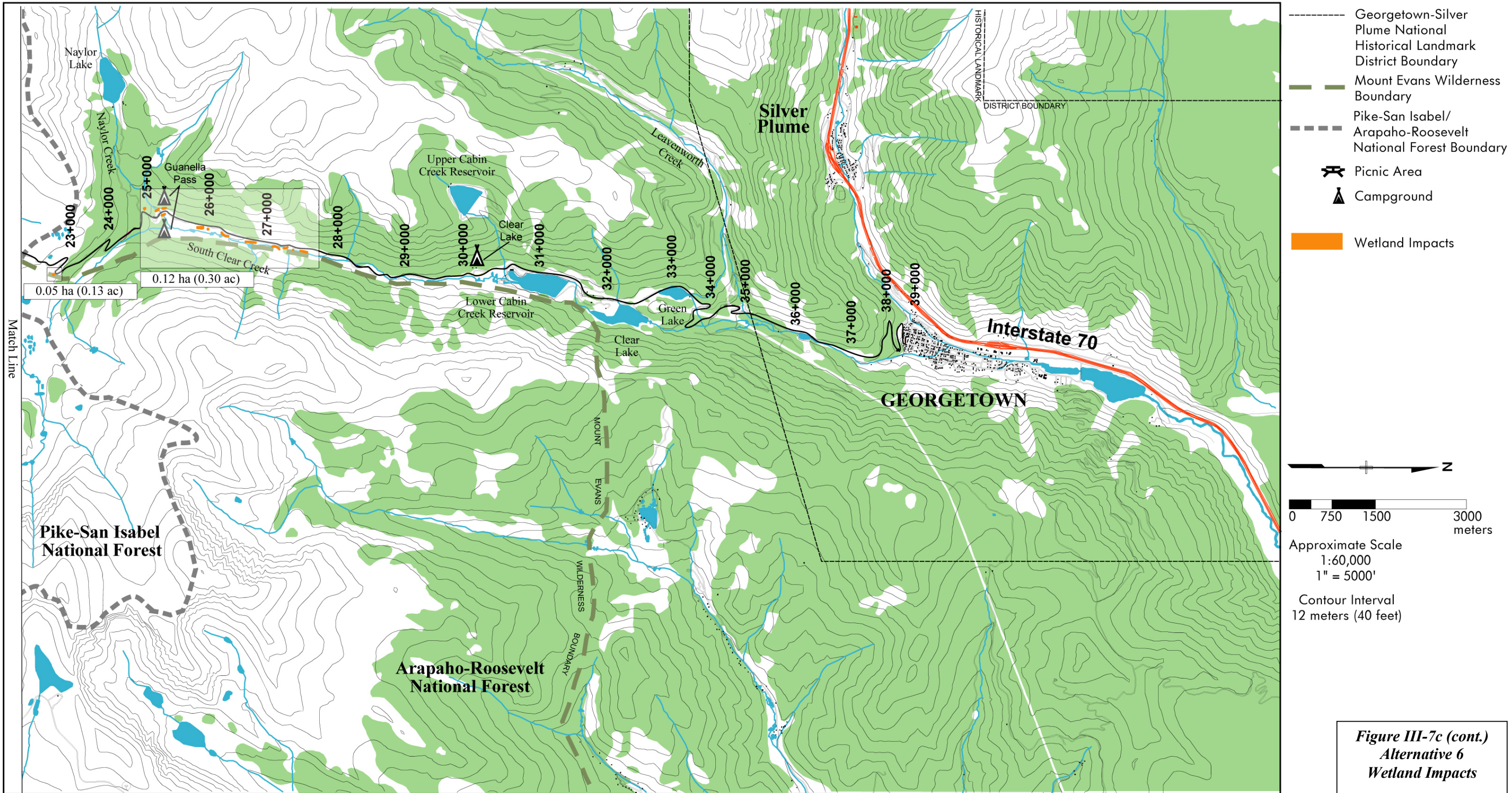
**Figure III-7b (cont.)  
Alternative 4 or 5  
Wetland Impacts**



-  Mount Evans Wilderness Boundary
-  Pike-San Isabel/ Arapaho-Roosevelt National Forest Boundary
-  Picnic Area
-  Campground
-  Wetland Impacts



**Figure III-7c  
Alternative 6  
Wetland Impacts**



*Figure III-7c (cont.)  
 Alternative 6  
 Wetland Impacts*



The Guanella Pass roadway corridor contains a diverse collection of land forms and vegetation. The visual inventory and assessment for Guanella Pass divided the landscape into 15 distinct character zones. The zones include pasture land, wetlands, lakeside forests, boulder fields, switchbacks, and an industrial area.

The land forms contained within each of the zones vary from open valley in Geneva Park to steep and semi-steep slopes through the switchbacks north of Guanella Pass. The Guanella Pass summit zone is typified by an open tundra landscape with long views of Otter Mountain, Mt. Evans, and Mt. Bierstadt. The switchbacks north of the pass lead to the floor of the valley with numerous large boulders that provide for unique focal points along the road. Steep cuts into the hillside due to construction of the existing roadway create abrupt drop-offs and falling rock hazards while at the same time providing spectacular panoramic views.

The vegetation present in the roadway corridor varies from pasture land for ranches to spruce/fir forests that provide tall overhead canopy. South of the Georgetown switchbacks is an area of wetlands in the Clear Creek drainage. This area is a long, wide valley with numerous beaver dams, ponds, and lodges. The floor of the valley is dominated by wetlands providing a rich habitat for wildlife. At the north end of the pass near Georgetown, tree and shrub growth creeps close to the road edge.

The diverse land forms and land cover through this area create a rustic scene. The spruce/fir forests provide a lush, remote environment. Even the most populated residential developments along the roadway are not noticeable due to the cover of dense vegetation. The numerous rocky cliffs and abundant vegetation throughout certain zones provide views of Rocky Mountain Sheep and other wildlife that are often seen grazing along the roadway. Outside of the forested areas of Guanella Pass Road, the views from the roadway are often long open stretches with distant mountains as the back drop. The presence of strong visual elements within the landscape, including the mountains, rock outcrops, and bodies of water along the pass set the majority of the project corridor in a moderate to high rating for scenic quality.

### ***Environmental Consequences***

Several areas of the existing Guanella Pass Road alignment do not meet current safety and design standards. The proposed roadway alternatives are aimed at addressing and correcting these issues while at the same time retaining the visual quality and character of the road. To accomplish this goal, the proposed road alignment (in all build alternatives) deviates slightly from the existing alignment in specific areas. Wherever the existing alignment is abandoned, the original contours of the land form are regraded and revegetated with native plant species to help preserve the visual quality and character of the area. The following discussion characterizes the visual impacts that are common to each of the alternatives.

### **General Impacts**

The parking areas proposed for all build alternatives, listed in **Chapter II.E.1: Parking Areas**, would be constructed to minimize their visual impacts on travelers and would eliminate roadside parking. This would enhance the visual quality of the route. All proposed parking areas meet the VQO's of the FS.

The supplemental aggregate/fill materials required for all build alternatives will come from two materials source sites. The materials source sites are located at Duck Lake (Station 19+200) and the Geneva Basin Ski Area (Station 18+250). These sites are within previously disturbed areas and will be restored according to an FS-approved plan. See **Chapter III.B.6d: Materials Source Locations** for more information on these areas.

### **Proposed Road Alternatives**

The change in visual quality and character of the roadway is dependent on the alternative. Each build alternative affects the visual quality and character of the existing roadway to a different extent. The difference in the visual character is defined by the surface type, the improved and unimproved sections of the road, and the extent of the proposed improvements. Dust suppressants and gravel surface options may also change the appearance of the road. A summary of the effects of each alternative are listed below.

#### Alternative 1

This alternative requires no new construction. The roadway is left in the existing condition and no new visual consequences are generated. The existing unvegetated, eroding slopes remain. The sense of a backcountry route is retained. However, parking along the roadside will become increasingly worse as the traffic increases.

#### Alternative 2

Improvements under Alternative 2 include reconstructing and paving the entire length of Guanella Pass Road. Alternative 2 also includes the widening of the existing roadway in certain areas to meet the road design standards discussed in **Chapter II: Alternatives**. Throughout the entire length of the road, the horizontal and vertical alignment will be corrected to improve traveler safety and operational conditions; drainage problems will be addressed and corrected; roadside parking and access will be upgraded and controlled; signs, pavement striping, and guardrail will be upgraded to meet current practice; and existing and new slopes will be stabilized and revegetated.

The roadway corridor will be expanded with the new construction. The ditches will be cleaned out and existing cut slopes will be rolled back to allow for vegetation, where none currently exists. The views of motorists driving on the Alternative 2 roadway will have a greater expanse of pavement in the foreground than currently exists and more open area adjacent to the road, especially in tree lined sections. The character of the existing roadway will lose part of its rustic, backcountry feel because of the change from a gravel road to a paved road and the creation of a 7.2 meter (24 foot) wide road section.

The view of the road from Georgetown will not change dramatically. The road will remain paved on the switchbacks above Georgetown, but it will be widened and retaining walls will be added where necessary to achieve a consistent width of 7.2 meters (24 feet). Roadside slopes will be stabilized and revegetated where needed.

#### Alternative 3

Improvements under Alternative 3 include reconstructing and resurfacing the entire length of Guanella Pass Road to its existing surface type (gravel or pavement). The portions of the road

that are currently paved will be improved and paved. Alternative 3 also includes the widening of the roadway in certain areas to meet the road design standards described in **Chapter II: Alternatives**. The alignment, safety, drainage, access control, slope stability, and revegetation improvements will be implemented along the entire length of the roadway. Guardrail will be put into place in certain locations.

With the new construction the corridor will be more open. A shoulder will be added that will increase the width of the roadway corridor. Slopes will be rounded and stabilized to support new vegetation. The rustic view of the existing road will be replaced with a more manicured look. The construction will provide a less intimate driving experience, but because of the use of gravel on existing gravel surfaces, it will appear more rustic than Alternative 2.

The view of the road from Georgetown will not change dramatically. The road will remain paved on the switchbacks above Georgetown, but it will be widened and retaining wall will be added where necessary to achieve a consistent width of 7.2 meters (24 feet). Roadside slopes will be stabilized and revegetated where needed.

#### Alternative 4

Improvements under Alternative 4 include reconstructing and paving four sections of Guanella Pass Road. They include the Falls Hill area, the area along Duck Creek over the summit to Lower Cabin Creek Reservoir, the Green Lake area, and the Georgetown terminus. Currently, the Duck Creek to Lower Cabin Creek Reservoir area is gravel. If Alternative 4 is chosen, this 14 kilometers (8.7 mile) section will be reconstructed and paved. Alternative 4 also includes the widening of the roadway in certain areas to meet the road design standards described in **Chapter II: Alternatives**. Safety, drainage, slope stability, and revegetation improvements will be implemented along the improved portions of the roadway. Guardrail will be put into place in certain locations.

The views of motorists driving on Alternative 4 will have greater expanses of pavement in the foreground in certain areas. Some of the backcountry, rustic character of the roadway will be lost by the additional pavement. In areas of construction, the placement of pavement, a shoulder, and fresh vegetation create a manicured highway look and feel. The remainder of the road will be left entirely unchanged (no safety, drainage, slope stability, environmental, or revegetation improvements) preserving a sense of remoteness. These areas remain winding and rustic.

The view of the road from Georgetown will not change dramatically. The road will remain paved on the switchbacks above Georgetown, but it will be widened and retaining wall will be added where necessary to achieve a consistent width of 7.2 meters (24 feet). Roadside slopes will be stabilized and revegetated where needed.

#### Alternative 5

Improvements under Alternative 5 include reconstructing and paving four sections of Guanella Pass Road. These are the same four sections identified for improvement under Alternative 4. Widening of the roadway in the improved areas to meet the road design standards described in **Chapter II: Alternatives** is also required. The remainder of the road will be rehabilitated.

The views of motorists driving on Alternative 5 will have greater expanses of pavement in the foreground in all areas that are improved. As in Alternative 4, some of the backcountry, rustic character of the roadway will be lost by the additional pavement, increase in width, and placement of a shoulder. The remainder of the road will be rehabilitated within the existing roadway limits of disturbance, consistent with the existing surface (gravel or pavement). The rehabilitation involves addressing and correcting drainage problems, revegetating any existing or new slopes, and resurfacing the roadway to the existing surface. The sense of remoteness will be replaced with a more open look and feel, but not to the same extent as found in Alternative 3.

Unvegetated or unstable slopes will be revegetated and stabilized. Otherwise, rehabilitation areas remain within the existing platform of the roadway allowing the existing vegetation near the road to remain in place with no disturbance. The character of the roadway is better preserved in the rehabilitation areas, although the roughness of the existing surface will be replaced by a smoother, newly-constructed surface.

The view of the road from Georgetown will not change dramatically. The road will remain paved on the switchbacks above Georgetown, but it will be widened and retaining wall will be added where necessary to achieve a consistent width of 7.2 meters (24 feet). Roadside slopes will be stabilized and revegetated where needed.

### Alternative 6

In contrast to Alternatives 2-5, Alternative 6 assumes a rural local road classification and uses the following design elements to help reduce the visual impact the proposed alignment has on the environment. These design elements are:

- Reduced design vehicle size
- Reduced curve radius (due to a smaller design vehicle), allowing the road to more closely follow the existing road
- Maximized rehabilitation opportunities and minimized reconstruction

As a result, the visual impacts related to the minor road realignments are less pronounced for Alternative 6 than for the other build alternatives. The minimum design vehicle standard allows a sharper switchback design curvature that allows the road alignment to more closely follow the existing road. Combined with the minimum roadway width, these two design elements help reduce the amount of retaining wall needed in the switchbacks near the Town of Georgetown. The minimum roadway width also helps preserve more of the roadway character than Alternatives 2-5.

Alternative 6 will change the existing views for motorists on the road. The changes occur mostly in the full reconstruction areas (19 percent of the route) where the road is opened up, the roadway platform (roadway plus adjacent ditches and foreslopes) is widened, and the cut and fill slopes are reconstructed and extended to promote slope stabilization and revegetation. The reconstruction areas provide a less rustic and intimate appearance than the existing setting. Nevertheless, Alternative 6 would have less impact to the visual setting than Alternatives 2-5 given that Alternatives 2-5 have a wider roadway and more reconstruction activity than Alternative 6 (see Table III-42).

Unvegetated or unstable slopes will be revegetated and stabilized. Otherwise, rehabilitation areas remain within the existing platform of the roadway allowing the existing vegetation near the road to remain in place with no disturbance. The character of the roadway is better preserved in the rehabilitation areas, although the roughness of the existing surface will be replaced by a smoother, newly-constructed surface. However, in areas of macadam surfacing, the road will have a more rustic appearance than in the asphalt with chipseal areas.

The view of the road from Georgetown will change less than for Alternatives 2-5. The switchbacks above Georgetown will undergo rehabilitation or light reconstruction, and will remain paved. The road will maintain a consistent width of 6.6 meters (22 feet) and, as mentioned above, unvegetated or unstable slopes will be revegetated and stabilized.

### **Realignment Impacts**

Generally, the proposed road under all alternatives matches the existing road alignment, with three exceptions (presented in Figures III-8 and III-9).

#### Station 18+900 to 19+200, Including the Duck Lake Access Road

At this location, the proposed alignment for all build alternatives shifts to the east of the existing road requiring the new alignment to cut through a dense stand of fir trees. This is being proposed to reduce impacts to Duck Creek and to provide a safer entry to the Duck Lake residences. The old alignment will be revegetated with native plant species to repair the existing road scar. Given the proximity to the creek, revegetation should be successful. Although adequate revegetation will take years, the view of the existing alignment is hidden from the view of the motorist. The proposed route changes the existing creek side view to a tree-lined vista for the motorist. The roadway will have new vegetation and shoulders, giving the road a more open look and feel.

#### The Duck Lake Switchback Between Stations 19+447 and 19+622

The proposed alignment for all build alternatives bypasses the existing switchback by cutting through a stand of firs. The bypass will require large quantities of fill material to recontour the old, over-steepened cut slope located at the approach to the switchback. The proposed alignment provides the motorist with a tree-lined vista. The wooded area provides a more intimate setting than the steep drop off. The roadway will have new vegetation and a shoulder giving the road a more open look and feel.

#### The Lower Guanella Pass Switchbacks Between Stations 24+500 and 25+235

At this location, the proposed switchbacks for all build alternatives make extensive cuts into dense fir stands, tripling the existing area opened by forest cuts. The larger radius used at Stations 25+112 to 25+198 will be quite visible from the Guanella Pass Campground. The existing alignment will be revegetated with native plant species to repair the road scar. The view for the motorist will be more of a forest-lined route, enhancing the remote character of the roadway. The roadway will have new vegetation and a shoulder giving the road a more open look and feel.



## Character of the Road

Alternative 6 was developed with the intention of retaining the visual quality and character of the road while balancing other needs. The character of the road is defined by many elements. The Town of Georgetown, Clear Creek County, and Park County have developed a list of elements that characterize the rural look and feel of Guanella Pass Road. These elements are listed in Table III-12, along with a summary of the status of each element under each of the alternatives. These elements will be considered during final design in coordination with the Town of Georgetown, Clear Creek County, Park County, and other interested parties.

The proposed road alignment for all build alternatives deviates slightly from the existing alignment in specific reconstruction areas. Wherever the existing alignment is abandoned, the existing roadway is regraded to conform to the original contours of the terrain, and revegetated with native plant species to help restore the visual quality and character of the area.

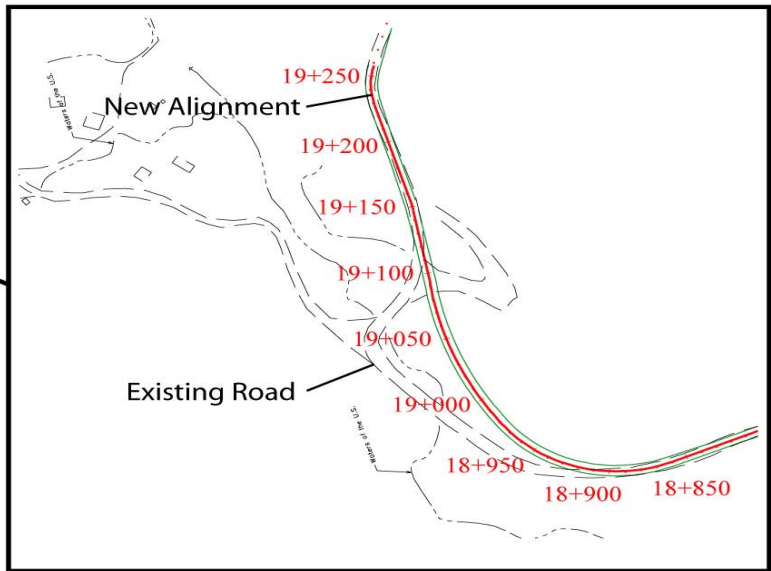
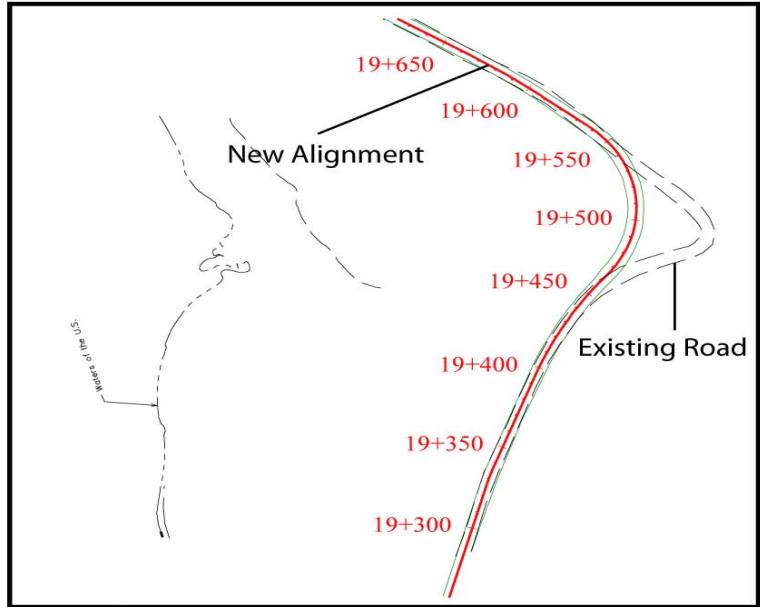
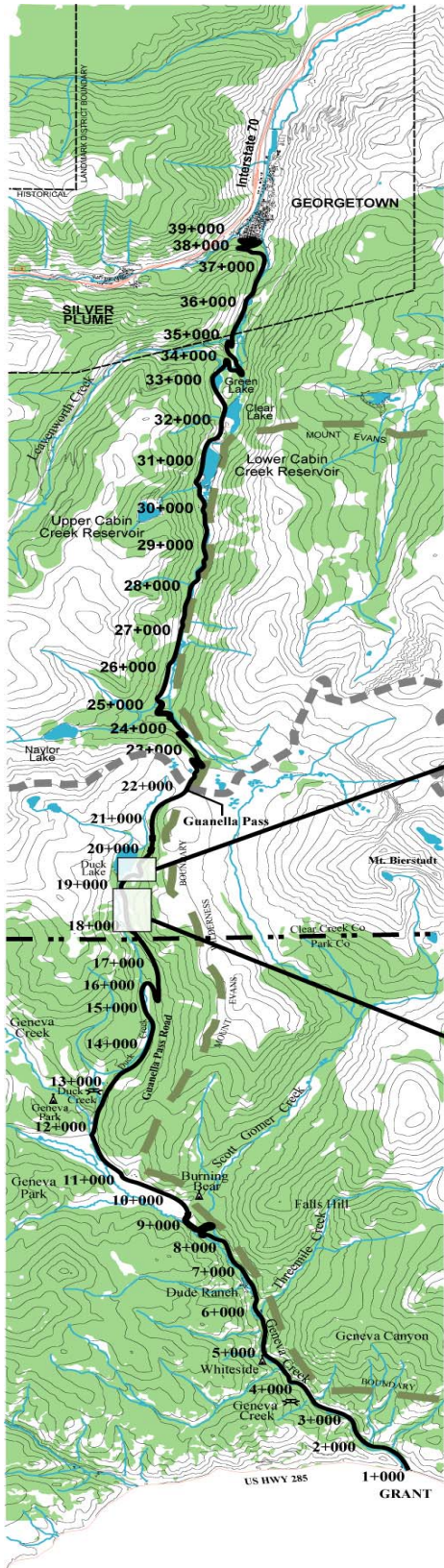
Additionally, the use of hardened surfacing options other than asphalt for any of the build alternatives will help preserve the character of the road and allow vegetation to grow closer to the road than a gravel surface. The surfacing options (see **Chapter II.B.6a: Surfacing Options**) provide a functional and aesthetic option to paved or gravel road sections. The chip seal on pavement option for asphalt-paved surfaces looks and feels more like a gravel road. The gravel alternative surface options add strength to the road without actually paving it with asphalt. The character of the road is better maintained with gravel alternative surfacing options than with an asphalt pavement, and the structural integrity of the road is better maintained than with just a gravel surface. The gravel alternative surfacing options vary in their ability to provide a stable surface. Surfacing options like magnesium chloride, PennzSuppress D, Permazyme, and Road Oyl are better than an untreated surface, but do not provide the same roadside erosion and sedimentation protection as a more solid surface like macadam or asphalt pavement. In addition to decreasing sedimentation and erosion, the hardened surface types also dramatically reduce the amount of dust produced by traffic on the roadway. This improves the visual quality of the road.

Several options for retaining walls, slope treatments, and guardrail design and materials are being considered to create a design that is aesthetically pleasing and keeps with the character of the road (see **Chapter II.G.1: Retaining Wall Design and Slope Treatments** and **Chapter II.G.3: Guardrail Design and Materials** for more detail on these options).

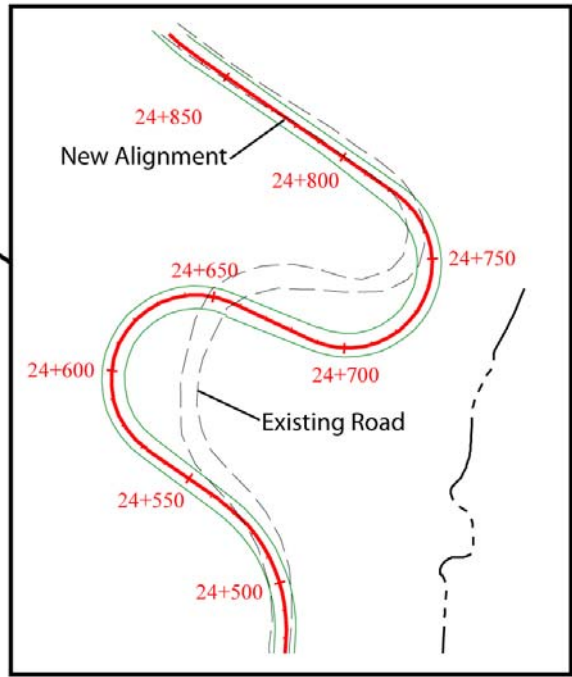
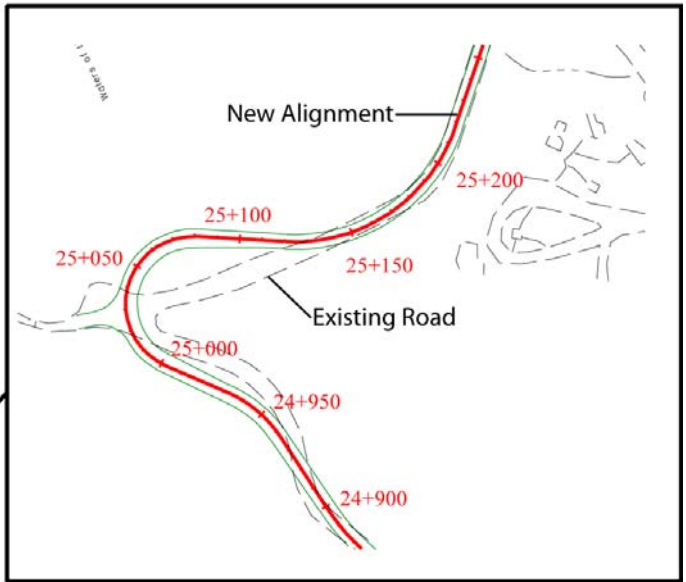
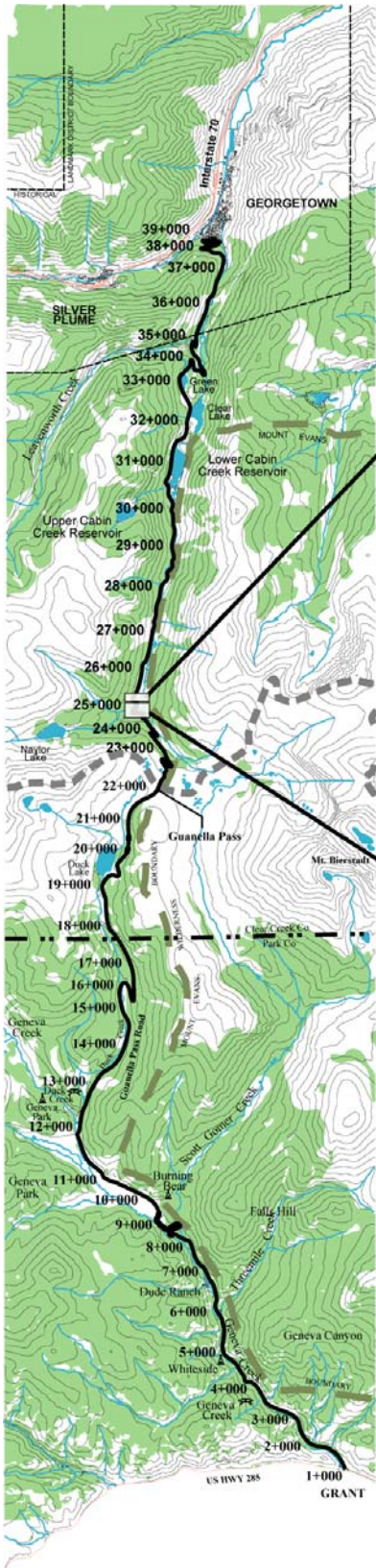
## Selected Existing Photos and Computer Simulations

As part of the public involvement process, several photo simulations were prepared for the Preferred Alternative (Alternative 6) that show the existing conditions and proposed roadway improvements at several locations along the corridor. These simulations include a macadam surface at the Geneva Creek Picnic Area (Figure III-10), the “Golden Cathedral” area north of Grant (Figure III-11), a macadam surface at the second switchback north of Guanella Pass (Figure III-12), a paved surface near Georgetown Reservoir (Figure III-13), a paved surface at the third switchback above Georgetown (Figure III-14), and a paved surface at the second switchback above Georgetown (Figure III-15).

Visual simulations of a road section paved with chip seal, as well as a switchback using a MSE retaining wall, were also prepared to show what these elements of the road improvement project will look like if approved for construction. These simulations are presented in Figures III-16 and III-17.



**Figure III-8**  
**Realignment Areas**  
**Stations 18+900 to 19+200**  
**And 19+447 to 19+622**



**Figure III-9**  
**Realignment Areas**  
**Station 24+500 to 25+235**

**Table III-12  
Road Character Elements**

<b>Elements</b>	<b>Alternative 1 (No Action)</b>	<b>Alternative 2</b>	<b>Alternative 3</b>	<b>Alternative 4</b>	<b>Alternative 5</b>	<b>Alternative 6</b>
<i>Roadway width</i>	5.5 – 7.2 meters (18 – 24 feet)	7.2 meters (24 feet)				6.6 meters (22 feet)
<i>Platform width</i>	Variable	9.1 – 11.0 meters (30 – 36 feet)				7.8 – 9.8 meters (26 – 32 feet)
<i>Road surfacing</i>	Deteriorated pavement (48%) and dirt/gravel (52%) surfaces.	New pavement (100%) surface.	New pavement (48%) and gravel (52%) surfaces.	New (50%) and deteriorated (36%) pavement surfaces; deteriorated dirt/gravel (14%) surface.	New and rehabilitated pavement (86%) and gravel (14%) surfaces.	New and rehabilitated pavement (56%), gravel alternative (30%) and gravel (14%) surfaces.
<i>Design Function/Use</i>	N/A	Rural collector				Rural local road
<i>Cut Walls (% of route)</i>	0%	3%	3%	1%	1%	2%
<i>Fill walls (% of route)</i>	<1%	26%	26%	20%	20%	14%
<i>Guardrail/Guardwall* (% of route)</i>	5%	38%	38%	26%	26%	23%
<i>Striping</i>	Currently Unstriped	100%	48%	48%	85%	56%
<i>Design Vehicle Size (Wheelbase)</i>	N/A	6.1 meters (20 feet)				5.2 meters (17.1 feet)
<i>Design Speed</i>	N/A	40 – 60 km/h (25 – 40 mph)				30 – 50 km/h (20 – 30 mph)
<i>Vegetation Cover Adjacent to the Road</i>	A hardened surface (pavement or gravel alternative) decreases road erosion and sedimentation and facilitates the establishment of roadside vegetation. The ability to provide a stable environment for vegetation is determined by the amount of hardened surface in the alternative – see Road Surfacing row (above).					
<i>Slope Revegetation and Drainage</i>	No slope treatments	The amount of slope treatment and drainage work is related to the level of construction for the alternative. The greatest amount of slope treatment and drainage work occurs in full reconstruction (FR), followed by light reconstruction (LR), rehabilitation (REHAB), and no action (NA).				
		100% FR 0% LR 0% REHAB 0% NA	51% FR 0% LR 0% REHAB 49% NA	51% FR 0% LR 49% REHAB 0% NA	19% FR 18% LR 63% REHAB 0% NA	
<i>Alignment</i>	No change in alignment	Alignment is related to the design speed (see Design Speed, above). The higher design speed of Alternatives 2-5 means flatter horizontal and vertical curves than existing alignment.				The lower design speed of Alternative 6 means the alignment more closely matches the existing alignment.

\* Includes guardrail used in MSE wall sections and guardwall used in the Georgetown area.



**B  
E  
F  
O  
R  
E**

*Figure III-10  
Station 3+900 Rehabilitation, Macadam Surface  
Geneva Creek Picnic Area*



**A  
F  
T  
E  
R**



**B  
E  
F  
O  
R  
E**

*Figure III-11  
Station 5+900 Rehabilitation, Gravel Surface  
Golden Cathedral Area*

**A  
F  
T  
E  
R**





**B  
E  
F  
O  
R  
E**

*Figure III-12  
Station 22+900 Light Reconstruction, Macadam Surface  
Second Switchback North of Guanella Pass Summit*



**A  
F  
T  
E  
R**



**B  
E  
F  
O  
R  
E**

*Figure III-13  
Station 36+200 Rehabilitation, Paved Surface  
Georgetown Reservoir Area*

**A  
F  
T  
E  
R**







**B  
E  
F  
O  
R  
E**

*Figure III-14  
Station 38+320 Rehabilitation and Light Reconstruction, Paved Surface  
Third Switchback Above Georgetown*



**A  
F  
T  
E  
R**



**B  
E  
F  
O  
R  
E**

*Figure III-15  
Station 38+740 Rehabilitation, Paved Surface  
Second Switchback Above Georgetown*

**A  
F  
T  
E  
R**





**B  
E  
F  
O  
R  
E**

*Figure III-16  
Station 37+700 Chip Seal Surface*

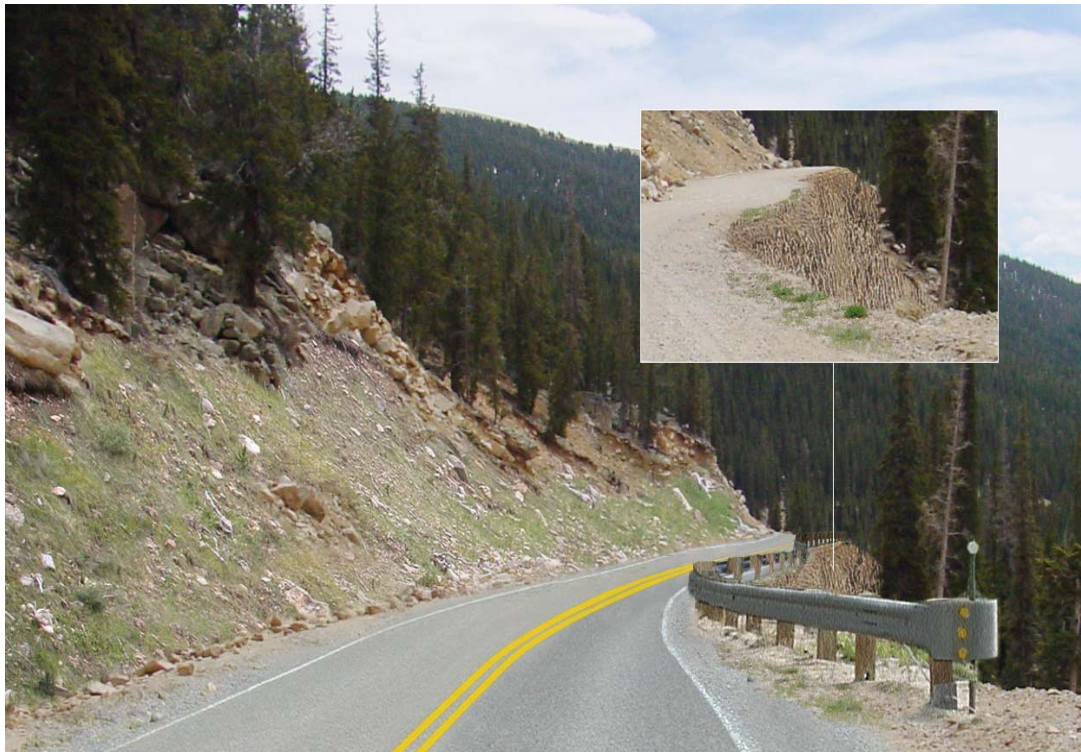
**A  
F  
T  
E  
R**





**B  
E  
F  
O  
R  
E**

*Figure III-17  
Station 16+500 Full Reconstruction, Paved Surface, MSE Retaining Wall  
Shelf Road*



**A  
F  
T  
E  
R**

#### 4. Recreational Resources

Guanella Pass Road provides access to many recreational resources. Recreation activities enjoyed along the route include hiking, mountain biking, fishing, camping, picnicking, sightseeing, aspen viewing, wildlife viewing, driving for pleasure, and many others.

The majority of Guanella Pass Road passes through NF lands. Of its total 38.2 kilometers (23.7 miles), approximately 21.1 kilometers (13.1 miles) pass through the Pike NF on the southern portions of the road and 12.4 kilometers (7.7 miles) pass through the Arapaho NF on the northern portions of the road. This area offers access to Mt. Bierstadt and the Mt. Evans Wilderness. A breakdown of the major trip purposes for travelers on Guanella Pass Road, based on roadside surveys taken during the summer and peak aspen viewing seasons in 1994, is given in Figure III-18.

Many recreational opportunities within the NFs are supported by Guanella Pass Road. The Pike NF, Arapaho NF, and Mt. Evans Wilderness include 444,039 hectares (1,110,097 acres), 408,275 hectares (1,020,687 acres), and 29,760 hectares (74,401 acres), respectively. Changes to the road that increase traffic levels will most likely increase the level of usage for each of these areas.

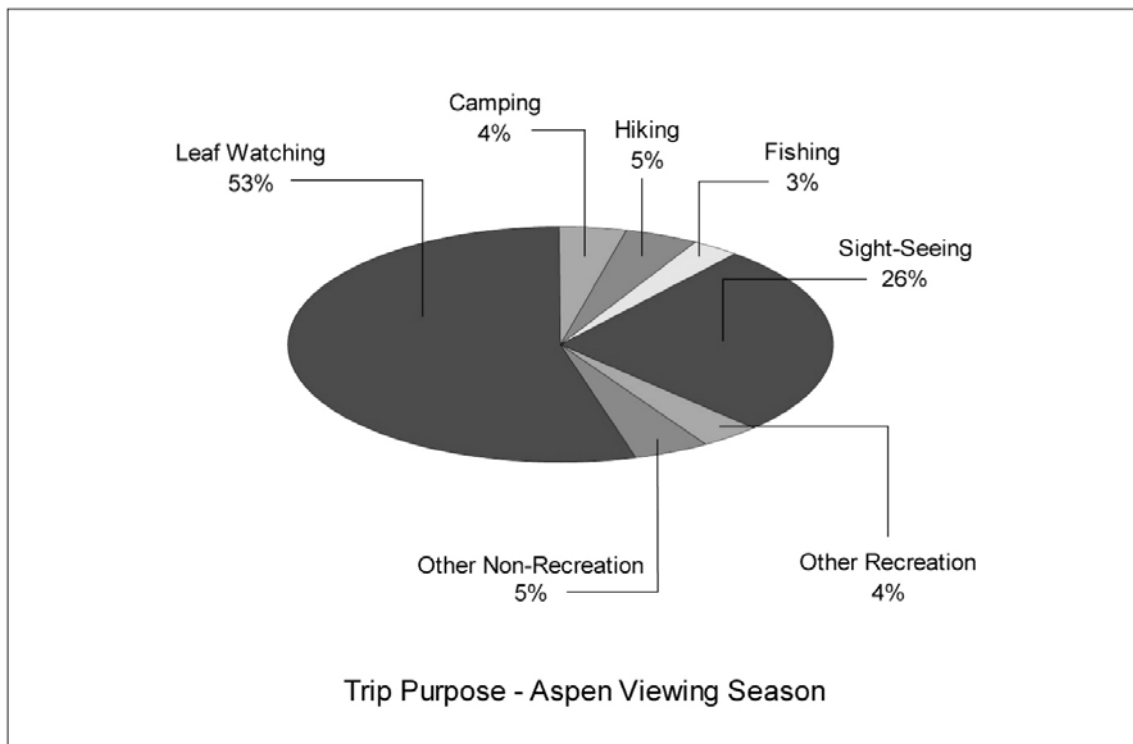
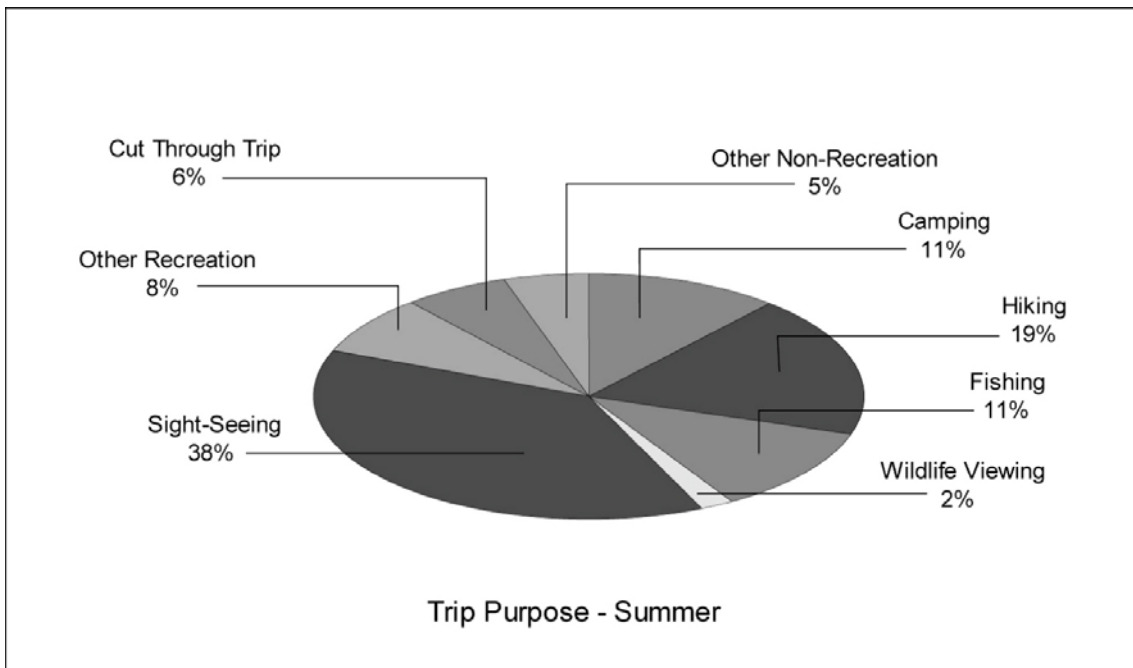
#### 4a. Recreational Activities

##### *Affected Environment*

Developed recreational sites within the NF lands include campgrounds, picnic areas, and trailheads with parking. Table III-13 lists the developed recreational sites.

**Table III-13**  
***Developed Recreational Sites Within the Project Area***

<b>Recreation</b>	<b>Number of Sites/Parking Sites</b>
Campgrounds	
Clear Lake	8
Guanella Pass	18
Geneva Park	26
Burning Bear	13
Whiteside	7
Picnic Areas	
Clear Lake	4
Duck Creek	5
Geneva Creek	5
Trailheads with Parking	
Silver Dollar Lake	8
Guanella Pass	50
Abyss Lake	30
Threemile Creek	5
<i>Source: Guanella Pass Road Colorado Forest Highway 80 Recreation Resource Technical Memorandum, March 1997.</i>	



*Figure III-18  
 Trip Purpose During Summer and Peak Aspen-  
 Viewing Seasons, 1994*

The following hiking trails are accessed from Guanella Pass Road:

Silver Dollar Lake Trail  
Square Top Lake  
Shelf Lakes  
Waldorf Townsite  
Rosalie Trail  
Guanella Pass Trail

Abyss Lake Trail  
Burning Bear Trail  
South Park Trail  
Threemile Creek Trail  
Scott Gomer Trail

In addition to these trails, several historic wagon roads and burro trails exist in the area. These include the Notch Trail, which connects Georgetown and Silver Plume, the railroad grade of the old Argentine Central Railroad, the Georgetown – Snake River Wagon Road, and the old road to the Geneva City Townsite.

The Continental Divide National Scenic Trail (which is currently in the implementation stage) is located in the general area. The trail corridor is approximately 4,800 kilometers (3,000 miles) in length and follows the Continental Divide throughout the country from Mexico to Canada. The trail corridor is approximately 10 kilometers (6 miles) west of Guanella Pass. The American Discovery Trail corridor (in the planning stage) will cross near Guanella Pass. This trail corridor will connect California and Maryland. If both of these projects are constructed, then Guanella Pass will be near the intersecting point for the nation's only complete east/west and north/south trail system.

The Guanella Pass area is also popular for fishing. Abyss Lake, Frozen Lake, Square Top Lakes, Geneva Creek, South Clear Creek, Bruno Gulch, Clear Lake, Georgetown Reservoir, Murray Lake, and Silver Dollar Lake provide fishing opportunities. Murray Lake and Silver Dollar Lake are accessed by trails off Guanella Pass Road. Geneva Creek, South Clear Creek, Bruno Gulch, and Clear Lake are accessed by Guanella Pass Road. Abyss Lake and Frozen Lake are located in the Mt. Evans Wilderness Area, and are accessed from the Abyss Trailhead. The Square Top Lakes are approximately 1.24 kilometers (2 miles) from Guanella Pass. The Georgetown Reservoir is located in Georgetown.

Abyss, Frozen, Square Top, Murray, and Silver Dollar Lakes all have cutthroat trout (sub-species unknown). Each of these lakes are above 3,600 meters (12,000 feet) and are often ice-covered until mid-June. Stream fishing opportunities exist along Geneva Creek. Additionally, many pullouts allow easy fishing access for rainbow trout and brook trout along the south fork of Clear Creek. Geneva Creek, from the confluence with Scott Gomer Creek upstream to the headwaters, does not support a fishery because of acid mine drainage (AMD) pollution and the natural leaching of heavy metals from the soil.

In addition to the developed recreational sites, the forests are used for dispersed recreational activities (activities in areas not developed for use). Dispersed use activities include hiking, fishing, camping, cross-country skiing, hunting, horseback riding, four-wheel driving, and snowshoeing.

The FS has a variety of types of information available to show recreation use in the NFs within the project area. These include recreation information management data for the region and for specific sites such as campgrounds and picnic grounds, trail registration sheets which provide counts of trail users, and counts of vehicles in parking lots. The FS Recreation Information Management (RIM) database provides 1994 recreational use data for the Pike NF. RIM data,

while not based on a scientific sampling, is the only information available on recreational use in the area. The RIM data is not available for these activities in the Arapaho NF. The data available for areas along Guanella Pass Road in the Pike NF are shown in Table III-14.

The RIM database contains data for the campgrounds in both the Pike NF and Arapaho NF. The data shows recreational use by recreation visitor days (RVD). Each RVD assumes a recreational use of 12 hours. During the period of May 1 through September 1, 1994, the developed campgrounds and picnic areas provided 73,440 RVD's. This level of use is nearing the capacity of the facilities.

Trail use data are available from the trail registers located at the trailheads for most of the major trails within the study area. The registers ask the trail user for information including the number in their party, their hiking destination, and what other activities they are doing along the hike. This data illustrates the high levels of trail use in the Guanella Pass Road area. The highest levels of use are on the Guanella Pass trail. The peak weekend day on this trail was recorded (by numbers of trail users who registered at the trailhead) on Saturday, August 16, 1995 as 334 people. This trailhead is particularly popular because it allows access to Mt. Bierstadt which, at 4,285 meters (14,060 feet), is one of Colorado's 54 official "fourteeners"<sup>4</sup>.

### ***Environmental Consequences***

Recreational use of the NFs in the project area has been steadily increasing and is expected to continue to increase in the upcoming years. The Guanella Pass area is within a one to two hour drive of the Front Range, which has one of the fastest growing populations in the nation. Colorado is second in the nation for total visitor days in use of NFs for recreation and fifth for total visitor days camping in NFs. In some parts of Colorado, recreation demand is growing twice as fast as population.

The growth of recreational demand in the Guanella Pass study area is related to several factors, including:

- The proximity of the Front Range to the project area.
- Easy direct access via Interstate 70 or U.S. Highway 285.
- Increases in recreational trips per capita.
- The presence of the Mt. Evans Wilderness Area.
- The presence of Mt. Bierstadt and Mt. Evans.

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<sup>4</sup> Mountains that have an elevation of at least 4,267 meters (14,000 feet) above Mean Sea Level (MSL).



**Table III-14**  
**1994 Recreational Activities Along Guanella Pass Road Within Pike NF**  
**(Recreation Visitor Days \*)**

	Recreation from Roads	Recreation from Trails	Recreation on Lakes & Streams	Dispersed Recreation	Total
Sight Seeing	187	289			476
Auto Drive	12,905				12,905
Nature Study				534	534
Motorcycle	2,368				2,368
Ice/Snow	810			2,130	2,940
Hiking	810	17,627		4,831	23,268
Bicycle	561	838			1,399
Horse	498	3,237		2,072	5,807
Cross-Country Ski	562	2,109		1,356	4,027
Snow Play				1,345	1,345
Fish			7,060		7,060
Swim/Play			510		510
Camp – Gen				6,222	6,222
Camp – Auto				3,560	3,560
Camp – Trailer				580	580
Camp – Tent				6,030	6,030
Picnic				3,137	3,137
Hunt – Big Game				1,386	1,386
Nature Collection				310	310
<b>Total</b>	<b>18,701</b>	<b>24,100</b>	<b>7,570</b>	<b>33,493</b>	<b>83,864</b>

*Source: Guanella Pass Road Colorado Forest Highway 80 Recreation Resource Technical Memorandum, March 1997.*

*\* A Recreation Visitor Day is twelve hours of use of the forest for the specified activity, whether that use is by one person or the sum of a number of people.*

**Table III-15**  
**Trail Use in the Guanella Pass Road Area, Summer 1995 (# of trail users)**

Month	Threemile	Abyss Lake	Rosalie	Bierstadt
June 95	142	478	N/A	N/A
July 95	310	1,130	890	400 (July 29 – 31)
Aug. 95	384	700	1,264	2,394

*Source: Guanella Pass Road Colorado Forest Highway 80 Recreation Resource Technical Memorandum, March 1997.*

*N/A: Not Available*

The FS estimated that demand for camping in the Arapaho NF will increase approximately 45 percent from 1993 to 2005. The projected increase in dispersed recreational use over the same time period is approximately 79 percent. The activities that currently have the highest amounts of dispersed use are camping, hiking, and fishing. Camping and mountain biking in the Arapaho NF are projected to increase 118 percent and 205 percent, respectively, from 1993 to 2005. No recreational demand projections have been developed by the FS for the Pike NF.

One of the most common uses of forest lands is recreational driving. Sightseers driving Scenic and Historic Byways generally prefer improved roads with good driving surfaces. Other recreational users may not be as concerned about the road surface.

An improved road provides easier access to many of the recreational sites along Guanella Pass Road and to many areas used for dispersed recreation. Concentrated use of recreational areas has a variety of impacts including soil compaction and soil erosion, displacement of wildlife, and trampling of vegetation. Access from the road has led to the development of many social (unofficial) trails off the road that traverse delicate willow and tundra plant communities. However, the use of guardrail, pullouts, and defined parking areas will help to control the amount of recreational use in non-designated areas.

Although many areas of the forest have available capacity for increased recreational use, some of the most popular areas in the forest, such as hiking trails to the “fourteeners”, are currently at or exceeding the FS recommended recreation carrying capacity. Increased access and use of the area by recreationists create an additional strain on the carrying capacity of the area along these trails.

Increased access and use by recreationists also create more pressure for dispersed use of the forests. Dispersed recreational use, such as fishing and camping in undeveloped campsites and off-trail hiking, impacts the forests. Increased dispersed use results in more environmental impacts and greater challenges to the FS in managing the appropriate levels of, and areas for, dispersed use. Design features will be incorporated into the improved roadway to limit the amount of dispersed recreational use. These features include guardrail placement, pullout locations, and the placement of large boulders to block vehicular access to certain areas.

An increase in recreational users in the area has a detrimental impact on the recreational experience for some users. Many forest users try to escape from people and congestion by going to the mountains. Serenity, quiet, and other tranquil characteristics are decreased in heavy recreational use areas.

Residents in the project area have expressed concern about increased use by off-road vehicles that damage delicate ecosystems along Guanella Pass Road. Design elements that will help control off-road use include strategic placement of guardrail, pullout locations, and large boulders to block vehicular access. Although the FS management strategy currently addresses these uses in the forest, improving the road may cause an increased need for patrols.

For this analysis, increases in recreational activities are assumed to be directly proportional to the increase in traffic volume. However, the FS has indicated to the FHWA that it will not simply build parking to meet demand. Instead, the agency will limit parking to a level that is based on the physical and social carrying capacities of the area.

### Alternative 1

Traffic levels for Alternative 1 are estimated to be 56 percent greater than 1995 traffic levels by 2025. The demand for recreational use of the Guanella Pass area is expected to increase according to this increase in traffic.

## Alternatives 2-6

Alternatives 2-6 are all expected to create traffic volume increases in excess of the Alternative 1 (No Action) increase. As such, the demand for recreational use of the Guanella Pass area is expected to increase proportional to the traffic increases. Alternatives 2,4, and 5 will create the greatest recreational demand (40-80 percent over No Action), followed by Alternative 3 (35 percent over No Action), and Alternative 6 (20 percent over No Action).

For additional information on existing and projected traffic volumes on Guanella Pass Road see **Chapter III.B.1b: Traffic Volumes**. Currently, approximately 90 percent of road usage is for recreational trips. It is expected that this recreation use rate will continue if the road is improved and the increased traffic volume will result in increased recreational use.

## All Alternatives

Traffic noise levels are expected to increase for every alternative (including Alternative 1) in proportion to the amount of traffic growth. Traffic noise can affect the recreation experience by detracting from the feeling of isolation. In the Mount Evans Wilderness area, it is expected that serenity and quiet are important to the preservation of the recreation experience. Noise is not expected to exceed levels that would diminish the recreation experience. Traffic noise levels for all alternatives are not expected to have any substantial impact on any recreational facilities in the corridor. The recreation experience will be slightly affected as a result of the increase in traffic noise, although the effects of the noise will be limited to the immediate vicinity of the road. Additional discussion of noise impacts is included in **Chapter III.C.2: Noise**.

More detailed information on recreational resource impacts is in the *Guanella Pass Road Colorado Forest Highway 80 Recreation Resource Technical Memorandum* (MK Centennial and Hermsen Consultants, March 1997).

## **4b. Parking**

### *Affected Environment*

Parking surveys were conducted to obtain information on current parking demand along Guanella Pass Road. Current parking demand exceeds supply at the Guanella Pass summit parking area, Clear Lake parking area and other areas along the corridor resulting in vehicles parking along the road. Figure III-19 displays the locations of existing and proposed parking areas along the corridor.

### *Environmental Consequences*

The proposed improvements included in all of the build alternatives are listed below:

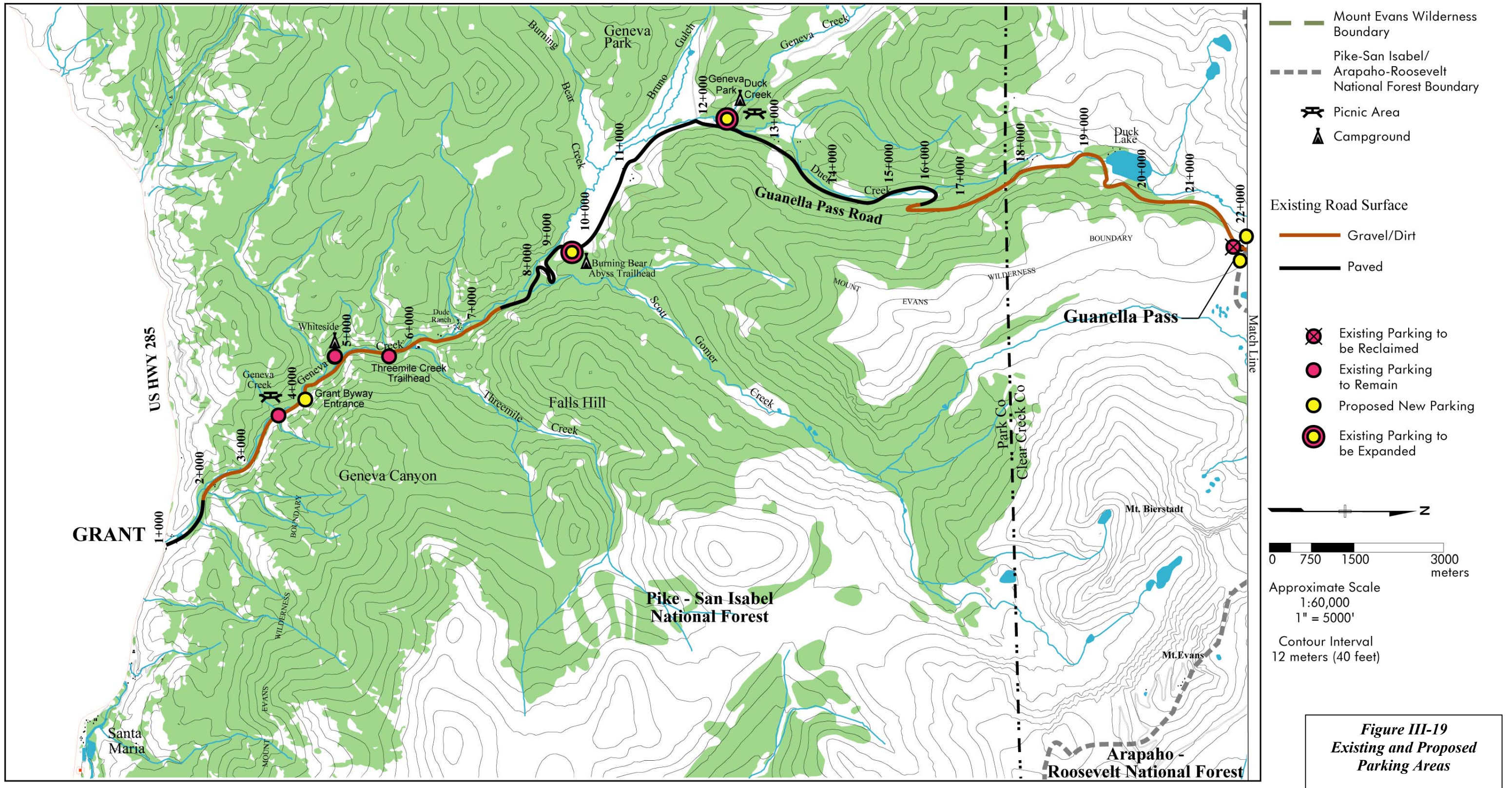
- Geneva Creek Picnic Ground (station 4+000) – The existing five-vehicle parking area will be retained but decreased in size to three vehicles. Portions of the existing parking area will be reclaimed.
- Grant Byway Entrance (station 4+100 to 4+150) – This new parking area will provide parking for approximately 15 vehicles.

- Whiteside Campground (station 4+820 to 4+870) – The existing parking area (10 vehicles) will be retained.
- Threemile Creek Trailhead (station 5+500 to 5+550) – This existing parking area (four vehicles) will be retained.
- Burning Bear/Abyss Trailhead (station 9+350 to 9+400) – The existing parking area (40 vehicles) will be eliminated and a new area created. There will be parking for approximately 40 vehicles and five horse trailers. This parking area is approximately 70 meters (225 feet) from the road.
- Duck Creek Picnic Ground (station 12+300; Winter Closure Site) – This parking area is an expansion of the existing picnic area, parking area, and turnaround. This parking area is located approximately 305 meters (1,000 feet) off Guanella Pass Road, on FS Road 119. There will be parking for approximately 10 vehicles and four horse trailers.
- Guanella Pass (station 21+750 to 21+950) – New parking areas are proposed on both the eastern and western sides of the pass. The existing parking areas and pullouts would be reclaimed. All informal parking along the road will be eliminated. Two alternative entrance roads to the western parking area have been proposed, to avoid disturbing a lithic scatter that may be eligible for the NRHP. The FHWA is committed to performing biological surveys of the two new entrance roads prior to construction, in addition to addressing comments from Native American groups regarding potential impacts to TCPs. The west parking area will hold approximately 60 vehicles, and the east parking area will hold approximately 50 vehicles. Figure III-20 depicts the preliminary design for the Guanella Pass parking areas.
- Clear Creek Winter Closure Site (station 24+600) – This new parking area is located in an existing switchback south of the intersection with Naylor Lake Road, approximately 55 meters (180 feet) from Guanella Pass Road. There will be parking for approximately 35 vehicles. Construction of this parking area would impact old growth forest and occur in lynx habitat. If it is determined during the final design phase that it is possible to shift this parking area to minimize impacts to these resources, the FHWA will perform any additional environmental surveys during the appropriate times prior to construction.
- Cabin Creek Hydro Station (station 30+710 to 30+770) – The existing gravel pullout (room for 10 vehicles) will be improved and paved. There will be parking for approximately six vehicles.
- Clear Lake Parking Lot (station 32+000) – This existing parking area (45 vehicles) will be retained.
- Waldorf/Kirtley Mine Parking Area (station 35+000) – This existing parking area will be retained.
- Silverdale (station 35+750 to 35+800) – The existing parking area is proposed for expansion to include the Scenic Byway entrance facilities. This parking area is located approximately 45 meters (150 feet) off the road. This area will require a grade change including additional fill and the relocation of a powerline. There will be parking for approximately 20 vehicles.

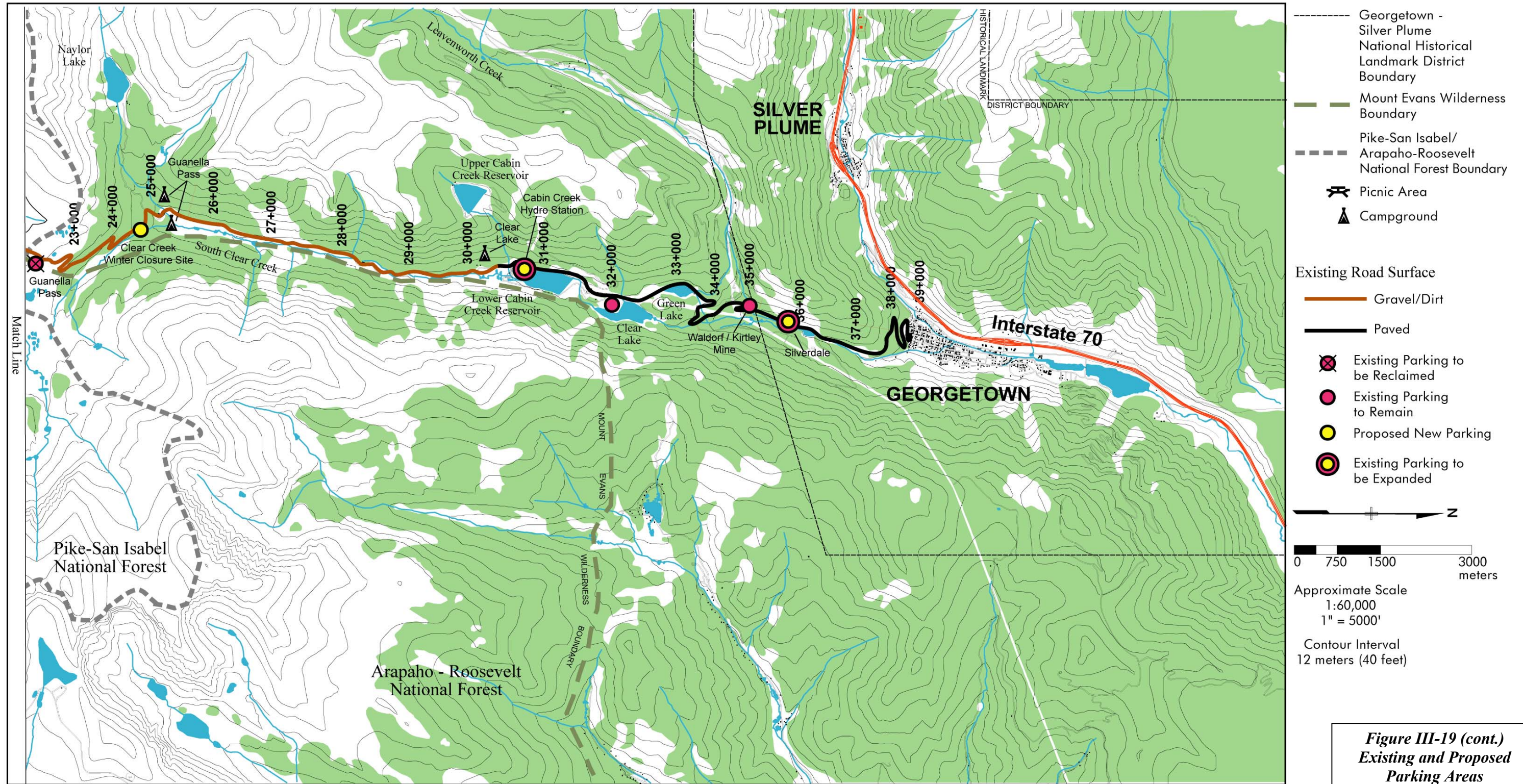
Table III-16 lists the existing and proposed size, as well as the proposed area of new disturbance, for each parking area. The proposed construction limits include the parking area plus a 4.5 meter (15 foot) buffer for construction activities. The construction buffer will be reclaimed and revegetated with native species once construction of the parking area has been completed.

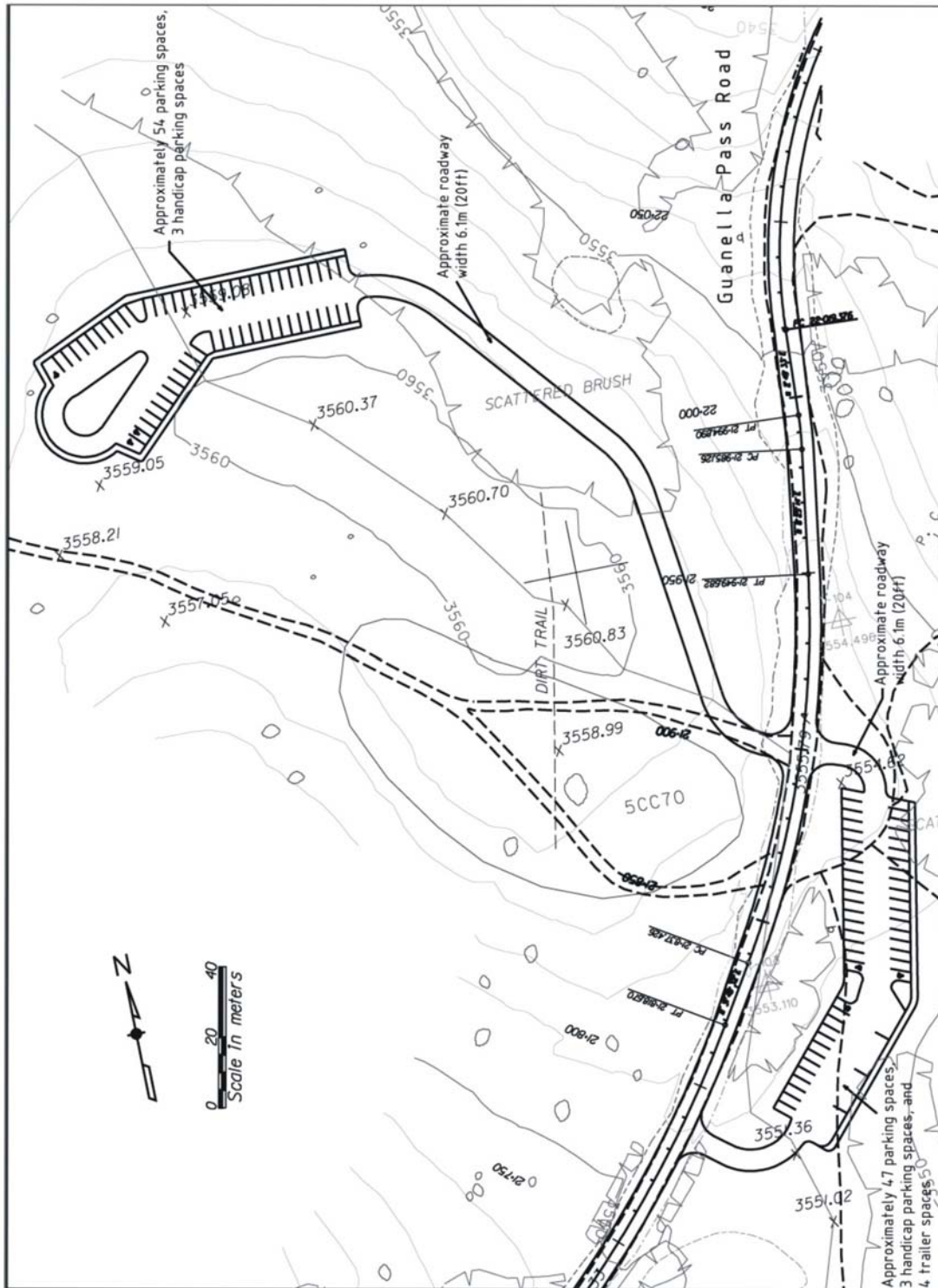
**Table III-16**  
**Existing and Proposed Parking Area Disturbance**

<b>Parking Area</b>	<b>Existing Size</b> <i>Hectares (Acres)</i>	<b>Proposed Size</b> <i>Hectares (Acres)</i>	<b>Proposed Construction Limits</b> <i>Hectares (Acres)</i>	<b>Existing Disturbance Within Proposed Construction Limits</b> <i>Hectares (Acres)</i>	<b>Total Proposed New Disturbance</b> <i>Hectares (Acres)</i>
Geneva Creek Picnic Ground	0.03 (0.06)	0.03 (0.05)	0.03 (0.05)	0.03 (0.05)	0 (0)
Grant Byway Entrance	0 (0)	0.06 (0.15)	0.11 (0.26)	0 (0)	0.11 (0.26)
Whiteside Campground	0.05 (0.12)	0.05 (0.12)	0.05 (0.12)	0.05 (0.12)	0 (0)
Threemile Creek Trailhead	0.02 (0.06)	0.02 (0.06)	0.02 (0.06)	0.02 (0.06)	0 (0)
Burning Bear/Abyss Trailhead	0.12 (0.31)	0.40 (0.98)	0.56 (1.38)	0.02 (0.05)	0.54 (1.33)
Duck Creek Picnic Ground	0.03 (0.08)	0.11 (0.26)	0.19 (0.47)	0.02 (0.04)	0.17 (0.42)
Guanella Pass (combined)	0.34 (0.83)	0.65 (1.61)	1.13 (2.80)	0.06 (0.14)	1.08 (2.66)
Clear Creek Winter Closure Site (Naylor Lake)	0 (0)	0.18 (0.44)	0.34 (0.85)	0 (0)	0.34 (0.85)
Cabin Creek Pullout	0.06 (0.15)	0.06 (0.15)	0.06 (0.15)	0.06 (0.15)	0 (0)
Clear Lake	0.32 (0.78)	0.32 (0.78)	0.32 (0.78)	0.32 (0.78)	0 (0)
Waldorf/Kirtley Mine	0.05 (0.12)	0.05 (0.12)	0.05 (0.12)	0.05 (0.12)	0 (0)
Silverdale	0.07 (0.17)	0.18 (0.44)	0.30 (0.75)	0.06 (0.15)	0.25 (0.61)



*Figure III-19  
Existing and Proposed  
Parking Areas*





**Figure III-20  
Proposed Guanella Pass  
Parking Areas**



The FS has indicated to the FHWA that it will not simply build parking to meet demand. Instead, the agency will limit parking to a level that is based on the physical and social carrying capacities of the area. The challenge will be to provide for as many opportunities as possible, while maintaining a satisfying experience for the users and protecting the natural resources. The FS anticipates that parking areas available in the future will accommodate levels of use similar to today's use, though it will be more tightly controlled.

The proposed parking at the Guanella Pass summit assumes that designated parking and/or a Wilderness use permit will limit Wilderness users. A total of approximately 110 parking spaces will be provided by two parking areas. This number of spaces will accommodate most short-term users except on peak days and hours. The parking area on the west side of the road will be closed during the winter to minimize impacts to wildlife.

Designated pullouts holding between two and four vehicles each will be provided at various locations along the corridor in all build alternatives. These pullouts will be developed during final design and will be located in coordination with the FS. The proposed number of developed parking spots is much lower than the number of dispersed parking areas currently available. Many of the existing pullouts will be incorporated into the driving surface when the road is reconstructed. Other existing pullouts, where use is causing resource damage, will be blocked off and revegetated.

The effect of winter closure will not be fully evaluated in this document. However, it has been determined that if winter closure is implemented, there will be a need to provide parking areas at the closure points. In Clear Creek County, there is currently a need for at least 15 spaces at the beginning of the Naylor Lake Road and an additional 35 spaces to accommodate winter recreation. In Park County, it is expected that the parking area near the Duck Creek Picnic Area will need to accommodate 10 vehicles as well as 4 vehicles with trailers. The effect of winter closure on the recreational activities in the Guanella Pass area is related to the response of people being placed farther away from their destination. Recreational users will be forced to park at the closure points and walk, snowshoe, or ski to their destination. This may reduce the desire of some people to recreate in this area and increase its appeal for others. People will likely recreate in areas immediately adjacent to parking areas causing the use in these areas to increase. Areas farther from parking lots that traditionally would have been more easily accessible will likely see a decrease in winter recreational use.

#### **4c. Pedestrian and Bicyclist Use**

##### ***Affected Environment***

A variety of opportunities for bicycle and pedestrian use exist both on and off Guanella Pass Road. Bicycle uses include mountain biking on trails, jeep roads, or Guanella Pass Road. Pedestrian uses include hiking on the many trails within the NFs, Mt. Evans Wilderness Area, or along Guanella Pass Road. Pedestrian use of the road is not high because many trails provide a more enjoyable hiking experience.

Several single-track bicycle trails in the area have been written up in mountain bicycle guide books. These include trails along Bruno Gulch, Burning Bear Trail, Geneva Creek, and South Park Trail. These trails are all located in the Pike NF on the west side of Guanella Pass Road. A fairly popular ride on the Georgetown side of the pass is up Guanella Pass Road from Georgetown to the Waldorf cut-off over the Argentine railroad grade that continues into Silver Plume. Several bicycle races have included portions of Guanella Pass Road in their routes, including the popular “Triple Bypass.”

Bicyclists who currently use Guanella Pass Road encounter several problems. Bicyclists on the dirt portion of the road inhale dust from the auto traffic on the road, especially on summer weekends. Currently, the road has no shoulders that would provide a margin of safety. Other safety considerations for bicyclists include tight curves with blind spots and limited sight distances.

### ***Environmental Consequences***

Compared to the existing condition of the road, the build alternatives reduce the amount of dust produced by vehicles on the road if an alternative surface type is used in gravel sections. The experience of the pedestrian and cyclist is enhanced by the reduction in dust.

Adding width to the roadway to accommodate pedestrians and bicycles was eliminated from consideration because of the additional environmental impacts that would occur (see **Chapter II.F.4: Additional Widening for Pedestrians and Bicycles**).

#### Alternative 1

Alternative 1 does not change the current situation for the pedestrian or bicyclist. Existing dust and safety problems are not addressed. The projected increase in traffic will make these problems worse over time.

#### Alternatives 2, 4, and 5

Alternative 2 reconstructs the roadway with a paved surface, which eliminates the dust problem. Alternative 4 and Alternative 5 reconstruct and pave parts of the existing road, resulting in 85 percent of the road being paved. This reduces the existing dust problem by increasing the paved surface from 48 percent to 85 percent of the road.

Alternatives 2, 4, and 5 may change the bicycling use on the road from a “mountain bike” experience to a “touring bike” experience because of the increased amount of paved surface. All reconstructed sections would have a 0.6 meter (2 foot) wide shoulder on each side of the road. Bicyclists, pedestrians, and automobiles would have to share the road, as the shoulders would be too narrow to accommodate vehicles passing bikes or pedestrians without encroaching on the oncoming lane. However, the increase in site distance will contribute to an increase in safety for pedestrians and bicyclists.

#### Alternative 3

Alternative 3 reconstructs the roadway with a gravel surface in areas that are currently gravel or dirt (52 percent of the road). Initially, dust is reduced from the current condition but eventually becomes worse as the surface deteriorates until eventually the dust problem is similar to the existing condition.

## Alternative 6

The proposed improvements for Alternative 6 include a shoulder 0.6 meters (2 feet) wide. However, this shoulder is too narrow to accommodate bicyclists, who would still need to share the road with automobile traffic. Some of the existing tight curves are reconstructed with more gradual curves, reducing the number of blind spots and improving sight distances. Although traffic will be traveling at slightly increased speeds in a more open corridor, this hazard potential will be offset by increased stopping sight distance and better vehicle handling because of the improved road surface and geometry.

Because it has fewer paved sections than Alternatives 2, 4, or 5, Alternative 6 will produce more dust. This can be reduced by the use of alternative surface types or dust suppressants on gravel sections of the road. The typical roadway cross-section in reconstruction areas is narrower for Alternative 6 than the other build alternatives and not as pedestrian/cyclist-friendly. Although Alternative 6 produces the least amount of traffic of the build alternatives, additional traffic from the improved roadway may make the road less safe for walkers and bicyclists and a less pleasant place to walk or ride a bike. However, these adverse impacts will be offset with the increase in hardened surfacing (for dust reduction) and the increase in shoulder width and sight distance (for safety concerns).

A more detailed analysis of this topic is provided in the *Guanella Pass Road Colorado Forest Highway 80 Bicycle and Pedestrian Use Technical Memorandum* (MK Centennial and Hermsen Consultants, March 1997).

## **5. Plants and Animals**

### **5a. General Wildlife**

#### *Affected Environment*

Guanella Pass Road crosses habitat typically associated with the upper montane, subalpine, and alpine tundra ecosystems of the Front Range in Colorado. Mule deer, elk, and bighorn sheep winter range is crossed by the first 4.8 kilometers (3 miles) of the route north of Grant. During spring, bighorn sheep use cliffs and adjacent steep terrain on both sides of the road in the Threemile Gulch-Arrowhead Mountain area (station 6+000 to station 8+000) as a lambing area. Geneva Creek is used by bighorn sheep as a source of water.

Beyond station 8+000, the road transects habitats used by deer, elk, and bighorn sheep during spring, summer, and fall. Subalpine forest and alpine tundra provide habitat for Rocky Mountain goats, which occupy higher elevations east and west of the road. Beaver, black bear, bobcat, mountain lion, and a variety of small and medium-sized mammals are common and occupy montane habitats in the vicinity of the road throughout the year.

Riparian forest, shrub stands, and cliffs along Geneva Creek provide nesting habitat for breeding birds including songbirds, waterfowl, and birds of prey (raptors). Red-tailed hawks, Cooper's hawks, golden eagles, and goshawks nest in and adjacent to the road corridor. Upper montane and subalpine forests and meadows crossed by the existing road provide breeding habitat for songbirds, waterfowl, raptors, and blue grouse.

Willow-dominated habitats at and above treeline in the vicinity of Guanella Pass provide winter habitat for an estimated 200 or 300 white-tailed ptarmigan from October through April. The Guanella Pass area is recognized as a regionally important winter concentration area for ptarmigan, some of which migrate to the area from surrounding summer ranges as far as 64 kilometers (40 miles) away.

South Clear Creek and adjacent beaver ponds provide habitat for brook trout, rainbow trout, brown trout, Snake River cutthroat, and “cutbows” (rainbow-cutthroat hybrids). Populations of these fish are currently being maintained through natural reproduction. Duck Creek supports a self-sustaining population of brook trout. Geneva Creek above its confluence with Scott Gomer Creek has no fish as a result of AMD impacts and/or bedrock geology that makes this reach unsuitable for trout. Below Scott Gomer Creek, the AMD is apparently diluted and a naturally reproducing trout population exists. Brook, brown, rainbow, and Snake River cutthroat trout inhabit Geneva Creek below the Scott Gomer Creek confluence. Streams and ponds along the road receive moderate fishing pressure during the spring, summer, and fall months.

Wildlife and wildlife habitats are protected under federal laws including the Endangered Species Act (ESA), the Migratory Bird Treaty Act, the Bald Eagle Protection Act, the Fish and Wildlife Coordination Act, the Federal Land Policy and Management Act, and the NEPA. In accordance with FS regulations and policy, an evaluation of potential impacts was prepared in coordination with the FS for species identified as FS Region 2 sensitive species (SS) as well as wildlife species identified as management indicator species (MIS) in the land and resources management plans for the Arapaho and Pike NFs. Potential impacts to management indicator species are discussed in **Chapter III.B.5c: Management Indicator Species**. In addition, a Biological Assessment (BA) was prepared to evaluate potential effects of Alternative 6 on federally listed threatened and endangered species for Section 7 coordination with the USFWS. The species evaluated in the BA for Alternative 6 are also evaluated in the Biological Report (BR) for all alternatives. Potential impacts to federally listed threatened, endangered, candidate, and FS sensitive species are discussed in **Chapter III.B.5b: Threatened, Endangered, and Sensitive Species**.

### *Environmental Consequences*

#### Alternative 1

Alternative 1 may result in adverse impacts to aquatic systems due to continual road erosion and sedimentation into neighboring streams. An increase in wildlife mortality and habitat disturbance may result due to increased traffic and recreational use of the area under Alternative 1, though to a lesser extent than any of the build alternatives.

## All Build Alternatives

Direct impacts to fish and wildlife habitat can be anticipated as a result of removal of shrub and emergent wetlands, forest, and alpine tundra habitat during construction activities. Habitat loss would be caused by creation of new roadway slopes, with the greatest area of effect caused by Alternatives 2 or 3 with 38.7 hectares (95.7 acres), then 4 or 5 with 22.8 hectares (56.3 acres), and the least by Alternative 6 with 15.4 hectares (38.1 acres) (Table III-11). Effects to specific habitat complexes are documented in the *Biological Report, Guanella Pass Road, Colorado Forest Highway 80* (Western Consulting Group and FHWA, July 2002). Local impacts to aquatic habitats, including streams and wetlands, are also anticipated as a result of physical disturbance of streambeds at road crossings and sediment loading during construction activities.

Displacement of birds and mammals due to construction disturbance will be short term and not substantial if mitigation activities are undertaken, including selective timing of habitat disturbance and revegetation to achieve pre-impact structural diversity. Similarly, impacts to aquatic biota will be limited in extent and duration with effective implementation of mitigation.

Long-term positive impacts will result from stabilization of most of the existing road cut and fill problem areas and reduction in airborne particulates (dust) through surface stabilization. Aquatic habitat will be improved by a decrease in sediment discharge from the existing road into stream and wetland areas during runoff events, and potential stream improvements at nine existing stream crossings.

The magnitude of potential adverse impacts of an improved road on wildlife in the affected area will be partially dependent upon the changes in the traffic volume and speed of vehicles which travel the road in comparison to current conditions. Some improvement in sight distances and roadway width would be expected to reduce these effects. A long-term increase in vehicle-wildlife accidents are anticipated under all of the alternatives as a direct result of increased traffic volumes above current conditions. Potential adverse effects of the project on wildlife would be greatest under Alternatives 2 and 3, somewhat reduced in magnitude under Alternatives 4 and 5, and least under Alternative 6.

## **5b. Threatened, Endangered, and Sensitive Species**

### *Affected Environment*

Threatened and Endangered species are those protected by the ESA, which is administered by the USFWS. FS sensitive species are those included in the FS Region 2 list. The BR (*Biological Report, Guanella Pass Road* (2002)) addresses potential impacts to threatened, endangered, FS sensitive, and FS management indicator species of all alternatives. The BA (*Biological Assessment, Guanella Pass Road* (2002)) addresses potential effects of the Preferred Alternative (Alternative 6) on Federally listed Threatened and Endangered species. The Federal species list was verified on July 18, 2002 (see correspondence in **Appendix A**). If a build alternative other than Alternative 6 is selected, the BA will need to be revised.

A list of TES species evaluated and their status is shown in Table III-17. In addition to the species on the list, two former USFWS candidate plant species, three FS plant species of special concern, and 49 plants that have been classified as sensitive by the Colorado Natural Heritage Program (CNHP) were evaluated.

Literature review, contacts with state and federal research biologists, and field surveys (including 100 percent pedestrian surveys for plants) were used in the biological analyses to evaluate the status (presence/absence) of the species in the project area. The entire road corridor was searched on foot during 1995 and 1996 to gather information about species within the area of potential project impacts. The Affected Environment for species discussed individually is combined with the subsection for that species under Environmental Consequences, below.

### ***Environmental Consequences***

Species discussed individually are those which may be affected and those for which mitigation is proposed to reduce or eliminate adverse effects. Effects to species are shown in the right column of Table III-17. The following discussion contains results presented in the BR and the BA. Mitigation is discussed in **Chapter IV: Mitigation**.

#### **Canada Lynx (Federally Threatened-State Endangered)**

Available evidence suggests that Canada lynx historically occurred in the Guanella Pass area and may have been present in the area as recently as 1979-1980. The CDOW'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. As of early 2002, 39 of the reintroduced lynx were known to be dead, 41 were still being tracked, and the remaining 16 were missing. There has been no evidence of reproduction. It is not known whether the population can become self-sustaining.

At least four of the reintroduced lynx have been killed on highways. Site characteristics (road geometry, posted speed limits, surrounding topography and vegetation cover) at locations where these mortalities occurred are highly variable; however, each of the roads are paved, and maximum vehicle speeds range between 72-112 km/hr (45-70 mph).

Lynx habitat in the western U.S. consists primarily of two forest types that must be linked by travel cover (dense overhead vegetation) that allows movement of lynx within their home ranges. The Canada lynx prefers early successional forests where they hunt snowshoe hares, their principal prey. Late successional forest stands containing dead-falls are preferred for denning. Lynx have been observed to travel along roadways within 15 meters (50 feet) of roads where adequate travel cover is present on both sides of the road. Coniferous or deciduous vegetation greater than 2 meters (6 feet) in height with a closed canopy, adjacent to foraging habitats, is considered suitable as travel cover for lynx. In the Guanella Pass area, subalpine fir, Engelmann spruce, and Douglas fir are most frequently used by snowshoe hares and are most likely to support lynx.

The effects of year around recreation are a risk factor for lynx in higher elevations of the Guanella Pass 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.

**Table III-17  
Threatened, Endangered, and FS Sensitive Species**

Common Name	Scientific Name	Status	Effect
<i>Animals</i>			
Canada Lynx	<i>Felis lynx canadensis</i>	UST, SE	likely to adversely affect*
Boreal Western Toad	<i>Bufo boreas boreas</i>	C, SE	not likely to adversely affect*
Southwestern Willow Flycatcher	<i>Empidonax trailii extimus</i>	USE	no effect
Bald Eagle	<i>Haliaeetus leucocephalus</i>	UST, ST	no effect
Greenback Cutthroat Trout	<i>Oncorhynchus clarki stomias</i>	UST, ST	no effect
North American Wolverine	<i>Gulo gulo luscus</i>	SE	no effect
Northern Goshawk	<i>Accipiter gentilis</i>	R2	MAI-NLT*
Dwarf Shrew	<i>Sorex nanus</i>	R2	MAI-NLT
Pygmy Shrew	<i>Microsorex hoyi montanus</i>	R2	MAI-NLT
American Marten	<i>Martes americana</i>	R2	MAI-NLT
Townsend's big-eared bat	<i>Plecotus townsendii</i>	R2	MAI-NLT
Pygmy Nuthatch	<i>Sitta pygmaea</i>	R2	MAI-NLT
Golden-crowned Kinglet	<i>Regulus satrapa</i>	R2	MAI-NLT
Fox Sparrow	<i>Passerella iliaca</i>	R2	MAI-NLT
Northern Leopard Frog	<i>Rana pipiens</i>	R2	MAI-NLT
Boreal Owl	<i>Aegolius funereus</i>	R2	no impact*
Black Swift	<i>Cypseloides niger</i>	R2	no impact
Three-toed Woodpecker	<i>Picoides tridactylus</i>	R2	no impact
Olive-sided Flycatcher	<i>Contopus borealis</i>	R2	no impact
Tiger Salamander	<i>Ambystoma tigrinum</i>	R2	no impact
<i>Plants</i>			
Penland Alpine Fen Mustard	<i>Eutrema penlandii</i>	UST	no effect
Porter's Feathergrass	<i>Ptilagrostis porteri</i>	C, R2	no impact*
Reflected Moonwort	<i>Botrychium echo</i>	R2	MAI-NLT*
Moonworts	<i>Botrychium lineare, B. pallidum</i>	R2	MAI-NLT
Northern Blackberry	<i>Cylactis arctica</i>	R2	no impact*
Brownie (Purple) Lady's-Slipper	<i>Cypripedium fasciculatum</i>	R2	no impact
Weber's Monkeyflower	<i>Mimulus gemmiparus</i>	R2	no impact
Sea Thrift, Sea Pink	<i>Armeria scabra</i>	R2	no impact
Prairie (Iowa) Moonwort	<i>Botrychium campestre</i>	R2	no impact
Livid Sedge	<i>Carex livida</i>	R2	no impact
White Cottongrass	<i>Eriophorum altaicum</i>	R2	no impact
Hall's Fescue	<i>Festuca hallii</i>	R2	no impact
Greenland Primrose	<i>Primula egaliksensis</i>	R2	no impact
Low Blueberry Willow	<i>Salix myrtilifolia</i>	R2	no impact
Autumn Willow	<i>Salix serissima</i>	R2	no impact
Little Bulrush, Rolland's Bulrush	<i>Scirpus rollandii</i>	R2	no impact
Larimer Cinquefoil	<i>Potentilla effusa var. rupicola</i>	R2	no impact
<i>Invertebrates</i>			
Rocky Mountain Clamshell Snail	<i>Acroloxus coloradensis</i>	R2	no impact
Lost Ethmiid Moth	<i>Ethmia monochella</i>	R2	no impact
Steven's Tortricid Moth	<i>Decodes stevensi</i>	R2	no impact
Source: Guanella Pass Road Colorado Forest Highway 80 Biological Assessment.			
SE: State endangered species    USE: USFWS endangered species    ST: State threatened species UST: USFWS threatened species    C: USFWS Candidate for listing    R2: FS Region 2 Sensitive MAI-NLT: May affect individuals but not likely to lead to a trend toward Federal listing * Mitigation proposed to reduce or eliminate impacts			

As a result of increased traffic and potentially increased vehicle speeds, the probability of lynx-vehicle encounters increases, as does the potential for lynx mortality. Improved sight distances would reduce the potential for direct effects. Any increase in mortality of lynx will adversely affect the viability of this species in Colorado.

Features of the reconstructed road such as retaining walls taller than 1.5 meters (5 feet) could be a barrier to lynx movement. Field inspection of areas where retaining walls and guardrail would be constructed suggests that the potential for lynx movement across the road may be affected at certain specific locations; however, most of these also contain short stretches where no retaining walls are proposed, and so may be used by lynx.

Under all alternatives, the projected magnitude of increased traffic and increased levels of human occupation of the road corridor are expected to result in avoidance of the area by lynx. If recreation were to increase in proportion to projected increased traffic from 1995 to 2025, the increase at the pass would be 56 percent for Alternative 1, 181 percent for Alternatives 2, 4, or 5 (high estimate), 110 percent for Alternative 3, and 88 percent for Alternative 6.

Both the east-side and west-side summit parking areas are in a linkage area where lynx apparently cross the mountain, and are located between areas of lynx habitat (defined by the FS, the USFWS, and the CDOW). Both parking areas are near dense, continuous willow fields that likely provide alpine cover for movement and possibly forage for lynx. The proposed parking areas at the summit could affect use of the area as a linkage for lynx, particularly during the winter because compaction of snow by recreationists would allow better access to other carnivore predators that would compete with the lynx and possibly prey on lynx. To minimize these effects, the FS has determined that the parking area on the west side will be closed during the winter.

All build alternatives may affect and are likely to adversely effect the lynx. Potential effects are mainly related to traffic volume and speed, and would be greatest under Alternates 2, 4, or 5, less under Alternative 3, then 6, and least under Alternative 1. Effects related to barriers to travel (retaining walls, high cut slopes) would be greatest under Alternatives 2 or 3, less under Alternatives 4 or 5, then 6, and least under Alternative 1. The status of the lynx, along with direct, indirect, and cumulative effects, is more fully discussed in the *Biological Assessment, Guanella Pass Road* (2002) and the *Biological Report, Guanella Pass Road* (2002).

The FHWA is currently in formal consultation with the USFWS because Alternative 6 may adversely affect the lynx. Lynx mitigation discussed in this document may be revised based on the contents of the Biological Opinion.

### **Boreal Western Toad (Federal Candidate, State Endangered)**

The boreal western toad inhabits subalpine and alpine wetlands at elevations ranging between 2,130 meters (7,000 feet) and 3,930 meters (12,900 feet), and was at one time a fairly common inhabitant of high elevation wetlands throughout mountainous areas of Colorado. During the 1970s and 1980s, this species experienced substantial population decline throughout its range in Colorado and Wyoming. Based upon what is known of the historic distribution of this species, all areas of subalpine and alpine wetlands are generally considered potential habitat for the boreal western toad.



The toad is known to occupy three locations in Clear Creek County, including two sites in the Clear Creek drainage basin where reproduction has been documented. In 1994, a breeding population was located on the South Fork of Clear Creek adjacent to Guanella Pass Road. During the summers of 1995 and 1996, the CDOW conducted searches of the breeding ponds located during 1994 and all areas of potentially suitable habitat within the road corridor from Georgetown to Geneva Park. During the summer of 1995, the CDOW search team identified and mapped three areas of occupied habitat in the Guanella Pass Road corridor, including the breeding ponds located during 1994. The CDOW also mapped “potential habitat” and “migratory habitat” for the toad. This mapping was used as the basis for analysis of the potential impacts of the build alternatives. Five adult toads and nine juveniles were located at the breeding pond during the 1995 search efforts; however, no evidence of current year reproduction (egg masses or tadpoles) was located within the study area. During 1996, no evidence of current-year reproduction was found at the breeding ponds along the South Fork of Clear Creek; however, eight adults and two sub-adults were located during visits to this site. Monitoring of this site was limited after 1996. However, in 1999, 41 sub-adult toads were located at the pond by the CDOW.

All build alternatives may adversely affect the boreal western toad through physical alteration or removal of existing roadside wetland habitats, or increased mortality as a result of increased traffic. A summary of potential impacts to boreal western toad habitat by alternative is provided in Table III-18.

Water quality impacts to aquatic habitats used by boreal western toads may occur from runoff from the roadbed due to periodic discharge of chemicals which may be used to stabilize a gravel road surface. Effects for the alternatives would be proportional to the extent of gravel surfacing.

Habitat would be improved by reducing sedimentation of wetlands and riparian areas which is currently being caused by roadway runoff (identified in **Chapter I: Purpose and Need** as a need for the project). The greatest benefits from sediment reduction would be provided by Alternative 2 with full paving and maximum opportunity to repair eroding slopes, followed by Alternatives 6, 5, 4, and 3. Alternative 1 would provide no benefits, and existing erosion problems would be expected to worsen.

Mitigation for impacts to potential breeding habitat and migratory habitat may effectively reduce the potential for adverse impacts to the boreal western toad population along South Clear Creek. Impacts could be mitigated through minor adjustments to the road alignment and site-specific design measures to minimize potential hydrologic impacts to wetlands in areas identified as boreal western toad habitat. Placement of drift fences along the road in high priority areas may encourage toads to cross Guanella Pass Road through oversized drainages or designed tunnels beneath the road.

Due to reduction in sediment, all alternatives except 1 and 3 would probably result in a situation no worse than, and probably better than, the existing conditions for the boreal western toad.

**Table III-18**  
**Potential Impacts to Boreal Western Toad Habitat**  
**Area of Potential Habitat Disturbance by Alternative**  
**hectares (acres)**

Habitat Type	Alt 1	Alt 2	Alt 3	Alt 4 or 5	Alt 6
Occupied Breeding Habitat	0	0.08 (0.2)	0.08 (0.2)	0.08 (0.2)	0.04 (0.10)
Potential Breeding Habitat	0	2.7 (6.5)	2.7 (6.5)	2.0 (4.9)	1.59 (3.95)
Migratory Habitat	0	1.2 (3.0)	1.2 (3.0)	0.05 (0.12)	0.04 (0.11)

Source: *Guanella Pass Road Colorado Forest Highway 80 Biological Assessment.*

### Northern Goshawk (R2 FS Sensitive)

Throughout their range in the Northern Rocky Mountains, Northern Goshawks nest in mixed conifer and deciduous forest stands along the edge of mountain valleys and stream bottoms. Northern Goshawks may return to nest at the same location year to year and are known to be sensitive to disturbance of their nests.

Northern Goshawks were observed north and south of Guanella Pass during the 1995 raptor survey and again during the 1996 raptor survey, and at least one pair of goshawks occupied a nesting territory that encompassed portions of the road corridor in the Geneva Park vicinity. Monitoring conducted by the FS during 1998-1999 also indicated that at least one pair of goshawks occupied habitats in the vicinity of Geneva Park during the nesting season.

Due to the extreme low densities of this species throughout the project area and the wide array of habitat types that may be used for foraging, quantification of most habitat types across the project area would highly skew the amount of actual habitat that may be occupied.

Under all build alternatives, road improvement construction activities in the vicinity of Geneva Park would likely result in northern goshawk avoidance of foraging areas and decreased nesting success. Alternative 6 and Alternative 5 propose to rehabilitate the road in this area, resulting in less construction disturbance than Alternatives 2 and 3. Construction under Alternative 4 would not impact areas identified as occupied by Northern Goshawks during the 1995 and 1996 field surveys but could affect habitats within the nesting territories of other nesting pairs.

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 will be conducted 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. Buffer zones may be established within 0.40 kilometer (0.25 mile) of nest sites, depending on terrain and other factors. Even with this mitigation, any build alternative may affect individual goshawks, but none would be likely to result in a loss of viability in the area or cause a trend toward federal listing or loss of species viability rangewide.

### **Dwarf Shrew (R2 FS Sensitive)**

This species is known from Montana, Wyoming, Utah, Colorado, Arizona, New Mexico and South Dakota. In Colorado, dwarf shrews have been collected in Larimer County, along the Arkansas River drainage, near Durango, and in Mesa Verde National Park at elevations between 1,620 to 3,500 meters (5,300 to 11,500 feet.). Dwarf shrews have been captured in abundance at several locations, which suggests that they can be locally common in suitable habitat, although the species is considered unusual in the project area.

Dwarf shrews are found in a variety of habitats including edges of alpine and subalpine rockslides, spruce-fir bogs, coniferous forests, sedge marshes, open woodland, dry brushy hillsides, and in grasslands. Breeding occurs in June and July in alpine and subalpine areas, but may occur earlier at lower elevations. Though the species prefers moderately moist habitats, it is less restricted to water than are other shrews. It can also tolerate arid to semiarid conditions, as many shrews have been documented up to 0.8 kilometer (0.5 mile) from water sources. This indicates that the dwarf shrew is probably more widely distributed than records indicate.

Surveys were not conducted to assess the presence and distribution of this species in the study area. As a conservative approach in this analysis, it has been assumed that potential habitat for the dwarf shrew is present and occupied.

There would be an increased probability of roadkill in proportion to projected traffic increases for all alternatives; however, this effect is not expected to be substantial for any alternative. Alternative 1 would not disturb potential dwarf shrew habitat. Alternatives 2 and 3 would result in disturbance of approximately 14.6 hectares (35.5 acres) of potentially suitable dwarf shrew habitat, Alternatives 4 and 5 would result in disturbance of approximately 7.2 hectares (17.7 acres), and Alternative 6 would impact approximately 4.3 hectares (10.0 acres) of potential habitat for this species.

Any of the build alternatives may impact individuals but, because of the abundance of suitable habitat in the project vicinity, none would be likely to result in a loss of viability in the area or cause a trend toward federal listing or loss of species viability rangewide.

### **Pygmy shrew (R2 FS Sensitive)**

Prior to 1961, this species was not known to occur south of Montana. Information concerning the abundance and distribution of this species in Colorado is very limited. Since 1961, the pygmy shrew has been captured at several locations in Colorado including sites in Larimer, Grand, and Gunnison Counties. The known distribution of the pygmy shrew is disjunct, and the population that exists in extreme southern Wyoming and the central Colorado mountains represents the extreme southern extent of its distribution. It is possible that this species occupies suitable habitat throughout the mountains of central Colorado. As of 1990, no records of the occurrence of pygmy shrews had been made in the project area.

The species has been found in subalpine forests, clear-cut and selectively logged forests, forest-meadow edges, boggy meadows, willow thickets, aspen-fir forests, and subalpine parklands. Pygmy shrews build runways under stumps, fallen logs, and litter. Pygmy shrews breed once per season in the warmer months and may have up to eight young in the litter. Its diet is mainly insects and other invertebrates.

Surveys were not conducted to assess the presence and distribution of this species in the study area. As a conservative approach in this analysis, it has been assumed that potential habitat for the dwarf shrew is present and occupied.

There would be an increased probability of roadkill in proportion to projected traffic increases; however, this effect is not expected to be substantial for any alternative. Alternative 1 would not disturb dwarf shrew habitat. Alternatives 2 and 3 would result in disturbance of approximately 14.0 hectares (34.6 acres) of potentially suitable dwarf shrew habitat, Alternatives 4 and 5 would result in disturbance of approximately 6.8 hectares (16.9 acres), and Alternative 6 would impact approximately 6.3 hectares (14.9 acres) of potential habitat for this species.

Any of the alternatives may impact individuals but, because of the abundance of habitat in the vicinity, none would be likely to result in a loss of viability in the area or cause a trend toward federal listing or loss of species viability rangewide.

### **American Marten (R2 FS Sensitive)**

Considered apparently secure in Colorado, marten occur throughout Alaska, Canada and the lower 48 states except for areas within the Midwest and the entire South. The marten is a fairly common inhabitant of subalpine spruce and spruce-fir forests throughout the western two-thirds of Colorado. Natural reestablishment and reintroduction programs have contributed to a moderate comeback in some areas of the northern U.S. including northern New England and the Great Lakes region. In Colorado, they occur in most areas of coniferous forest habitat in the high mountains. Martens are found in spruce/fir, lodgepole, limber pine, and alpine transition areas, in rock and talus fields, and occasionally above treeline.

Marten trapping ceased in 1995 when the CDOW closed the season and a ballot initiative closed the state to take of all furbearers by snares. Population appears to be increasing, and surveys have found marten to be widely distributed across the state in suitable habitat and the fifth most common mammal behind red squirrels, snowshoe hare, weasel, mice/vole, and coyotes.

Martens are believed to be present within the general project area due to recent records. Surveys to assess the presence and distribution of martens in the Guanella Pass Road corridor were not conducted for this project. As a conservative assumption, it has been presumed that potential habitat for this species exists in all mature subalpine forests within the road corridor and that this habitat is occupied. Within the road corridor, the area that provides the best habitat for martens occurs within the upper reaches of the subalpine forest in the headwaters of the South Fork of Clear Creek and Duck Creek.

Timber removal activities may indirectly impact marten by removal of potential den structures, stand density, and canopy cover, although the potential for a den tree to be located adjacent to Guanella Pass Road is highly unlikely. Removal of trees may also reduce foraging habitat.

Physical removal of approximately 5.4 hectares (13.3 acres) of potential marten foraging habitat would occur during construction of Alternatives 2 or 3, 5.0 hectares (12.5 acres) under Alternatives 4 or 5, and 3.4 hectares (7.8 acres) under Alternative 6.

Any of the alternatives may impact individuals but, because of the abundance of habitat in the vicinity and the unlikelihood of den sites adjacent to the road, none would be likely to result in a loss of viability in the area or cause a trend toward federal listing or loss of species viability rangewide.

### **Townsend's Big-eared Bat (R2 FS Sensitive; FS MIS)**

Townsend's big-eared bats range from central British Columbia south and east to the Black Hills, central Oklahoma, northern Baja, and central Mexico with disjunct populations in the Ozarks and central Appalachians. This species is regularly seen or captured throughout the western two-thirds of Colorado in association with semi-desert shrublands, pinion-juniper woodlands, and open montane forest habitats.

These bats use caves, rock crevices, abandoned mine shafts, and abandoned buildings as day roosts and hibernation sites. This species has very specific habitat requirements and are sensitive to temperature fluctuations and human disturbance at roost sites. Records of this species occurrence in the project area were recorded prior to 1990, and one adult male was captured in the Clear Creek Ranger District in 1992. Searches of the existing road corridor during 1995-1996 did not reveal suitable roost sites for Townsend's big-eared bats; however, they may forage in the project area.

No suitable roosting sites for the species were found within the project area and, therefore, the build alternatives are not expected to result in any effects on the bat's winter or summer roosting habitat. Potential impacts of the build alternatives may occur to foraging habitat during construction across drainages and along water bodies.

Any of the build alternatives may impact individuals but, because no suitable roosting sites for the species were found within the project area, none are likely to result in a loss of viability in the area or cause a trend toward federal listing or loss of species viability rangewide.

### **Pygmy Nuthatch (R2 FS Sensitive; FS MIS)**

The pygmy nuthatch is a fairly common to common resident of lower montane and foothills ponderosa pine forests in the Front Range of Colorado. This species is primarily found in open ponderosa pine forests, though lodgepole pine, Douglas-fir, and subalpine spruce-fir forests are also used as foraging habitat throughout the year.

This species has been found in the Georgetown area and in areas located to the east and north of the study area. It is believed that Guanella Pass Road lies on the periphery of this species habitat due to its high elevation. Based on the few records, however, it is assumed that suitable habitat does exist within the project area to some degree and is occupied by this species.

Timber removal activities have the potential to impact pygmy nuthatches through removal of snags or live trees that could provide suitable nesting habitat. Canopy cover modifications that affect the abundance of insect and seed food sources could also impact pygmy nuthatches.

Alternatives 2 or 3 would remove approximately 13.3 hectares (32.9 acres) of potential habitat for this species, Alternatives 4 or 5 would remove approximately 7.7 hectares (19.0 acres), and Alternative 6 would remove 4.8 hectares (11.3 acres). The project may impact individuals but, because effects to habitat are minor compared to available habitat, is not likely to result in a loss

of species viability in the area or cause a trend to federal listing or a loss of species viability rangewide.

### **Golden-crowned Kinglet (R2 FS Sensitive; FS MIS)**

The golden-crowned kinglet is a fairly common summer resident and rare winter resident in Colorado. They are well-distributed across late-successional spruce-fir habitats within Colorado. This species uses a wide range of habitats including riparian (aspen-willow-alder), spruce, spruce-fir, and lodgepole pine stands. Small numbers of golden-crowned kinglets have been found within the study area.

Impacts to populations of golden-crowned kinglets can include vegetation modification of old growth spruce-fir habitats that reduce canopy closure, remove nesting and foraging structures, and adversely affect insect and arthropod abundance. Alternative 1 will not impact the golden-crowned kinglet since no habitat disturbance will occur. Alternatives 2 or 3 would remove approximately 9.9 hectares (24.4 acres) of late-successional spruce/fir habitat for this species, Alternatives 4 or 5 would remove approximately 5.4 hectares (13.3 acres), and Alternative 6 would remove about 3.34 hectares (8.25 acres). Any build alternative may impact individuals, but none would be likely to result in a loss of viability in the area or cause a trend toward federal listing or loss of species viability rangewide because the species is generally considered an interior forest species, and interior forest is, for the most part, not affected.

### **Fox Sparrow (R2 FS Sensitive)**

The Rocky Mountain form (subspecies) of the fox sparrow (*P. i. schistacea*) is considered to be an uncommon to fairly common resident of the upper montane zone where it occupies riparian shrubland and woodland habitats between 2,285 and 3,350 meters (7,500 and 11,000 feet). They may be found in lower elevations during migration and in the winter months. In general, fox sparrows nest within dense shrubby riparian understories for concealment from predators and refuge from extreme temperatures. This species has been observed in willow, alpine tundra, fir-spruce, spruce, and willow-wet meadow habitats. Based on past survey records, it is assumed that suitable habitat exists within the project area and is occupied by this species.

Alternative 1 will not impact the fox sparrow since no habitat disturbance will occur. Alternatives 2 or 3 would remove approximately 2.0 hectares (4.8 acres) of potential habitat for this species, Alternatives 4 or 5 would remove approximately 1.1 hectares (2.8 acres), and Alternative 6 would remove about 0.21 hectare (0.52 acre). The fox sparrow has little tolerance to changes on nesting grounds, and is probably not nesting close enough to the road to be disturbed by any alternative. Effects also include avoidance of the area due to increases in recreation, access, and overall noise levels within the habitat of this relatively intolerant species.

Construction may impact individuals but, because of the large amount of suitable foraging and nesting habitat in the vicinity, is not likely to result in a loss of viability in the area or cause a trend toward federal listing or loss of species viability rangewide.

### **Northern Leopard Frog (R2 FS Sensitive; Special-Concern, CO State; FS MIS)**

The northern leopard frog is widely distributed in North America, but uncommon and localized in Colorado. Leopard frogs are highly aquatic and occur in or near quiet, permanent and semi-permanent water in many habitats, but particularly those with rooted aquatic vegetation up to

3,200 meters (10,500 feet). Adults may forage far from water in damp meadows and during rainy weather. Searches of ponds and wet meadow habitats north of Guanella Pass conducted by the CDOW during the 1995 boreal toad surveys failed to locate northern leopard frogs. Potential habitat is present for leopard frogs within the study area; however it is unlikely that the species regularly occurs. The effects analysis is based upon the premise that the species may occur in the project area.

Alternative 1 would not disturb potential habitat for the leopard frog except for continued and likely increasing sediment deposition. Alternatives 2 through 6 are not expected to directly impact any potential breeding pond habitat. Increased mortality during dispersal events may occur as a result of increased traffic over time under all alternatives.

Any of the build alternatives may impact individuals, but none are likely to result in a loss of viability in the area or cause a trend toward federal listing or loss of species viability rangewide. Alternatives are unlikely to adversely affect the species due to lack of specimen occurrence in the project area. Mitigation provided for impacts to wetlands should compensate for any indirect hydrologic impacts to potential leopard frog breeding habitat.

### **Boreal owl (R2 FS Sensitive)**

In Colorado, the boreal owl is considered a rare to locally uncommon resident of mature spruce-fir and spruce-fir/lodgepole pine forests interspersed with meadows in areas between 2800 and 3170m (9,200 and 10,400 feet). Preferred habitat in the Rocky Mountain region consists of extensive stands of late successional subalpine forest (mixed conifer, Engelmann spruce, Douglas-fir, and aspen) interspersed with foraging habitat that consists of openings in the canopy and wet meadows.

Several records of boreal owl occurrence have been recorded in the northern Park County and Clear Creek County area. Surveys to assess the presence and distribution of boreal owls in the study area were not conducted for this analysis. It has been presumed that potential habitat exists within the project area and is possibly occupied by boreal owls.

Impacts to boreal owls may include nighttime mortality as a result of collisions with vehicles. However, it has been determined that vehicular travel on Guanella Pass Road after darkness is very low, thus the potential for direct effects to boreal owls as a result of highway mortality is considered unlikely. If boreal owls use the project area, construction disturbance under the build alternatives could result in avoidance of foraging or roosting areas.

Impacts could also include removal of potential nest and roost structures, a reduction in canopy cover, and habitat modifications that lead to the loss of prey species and their habitat. It is doubtful, however, that boreal owls currently nest within adjacent areas of the road considered for expansion/straightening. Alternative 1 will have no impact on boreal owls since no habitat disturbance will occur. Alternatives 2 or 3 would remove 9.4 hectares (23.2 acres) of boreal owl habitat, Alternatives 4 or 5 would remove approximately 6.8 hectares (16.8 acres), and Alternative 6 would remove 4.5 hectares (10.1 acres).

In order to avoid impacts to boreal owls, night-time surveys for boreal owls will be conducted one year prior to construction work in full reconstruction areas in mature conifer habitats. In coordination with the FS, the FHWA will schedule construction activities to avoid impacts.

### **Porter's Feathergrass (Federal Candidate, R2 FS Sensitive)**

Porter's Feathergrass is endemic to central Colorado, located in Lake, Park, and El Paso Counties. Usual habitat is on grassy hummocks on high quality rich fens where sufficient nutrients are present to support a botanically diverse flora. This species had been found on the large fen at the south end of Geneva Park prior to the Guanella Pass survey. During the course of the survey, plants were found in two areas on the fen in Geneva Park.

Alternative 1 will not impact Porter's Feathergrass. Under all of the build alternatives, the road along the south end of Geneva Park is reconstructed or rehabilitated along its present alignment. Unplanned disturbance peripheral to this reconstruction action could cause harm to the feathergrass.

Construction of the proposed alternatives is not a direct threat to Porter's feathergrass. To protect the plant, boundaries will be clearly marked (temporarily fenced during construction) around the surveyed species location. This will be made known to construction personnel, and penalties for transgression will be enforced. This will be done to protect the entire fen area. With implementation of this mitigation, there will be no impact to Porter's feathergrass.

### **Reflected Moonwort (R2 FS Sensitive)**

Several species of moonworts are considered to be rare in Colorado. They do well in mildly disturbed areas below timberline in moist grassy meadows, but also in rather dry, barren areas between the trees. Reflected moonwort was found at several locations along the Guanella Pass Road corridor. Various populations were found along the existing road in the gravelly shoulders on both sides of the pass.

Direct impacts to observed occurrences of moonwort species, including reflected moonwort, would occur for all build alternatives at six locations along the roadside. The association of these plants with disturbed road shoulder sites leaves the likelihood of their periodic destruction rather high even within the confines of normal road maintenance for all alternatives including Alternative 1. Because these plants currently exist along the gravel-laden, recurrently disturbed highway shoulders, it is reasonable to expect that they will also exist along the shoulders of the reconstructed road.

Mitigation of the temporary impact to the moonworts will be accomplished through implementation of a modest transplantation effort. Moonworts will be transplanted to up to six sites in coordination with FS botanists.

### **Slender Moonwort, Pale Moonwort (R2 FS Sensitive)**

Moonworts are spread thinly throughout the higher mountains of Colorado, but because of their small size and lack of showy flowers, these relatives of the ferns are rarely seen. Slender moonwort can occur in a variety of habitats such as meadows with tall grass, beneath trees in wooded areas, and on limestone cliff shelves at higher elevations. The species is currently being reviewed for listing under the ESA. Pale moonwort occurs predominantly on open exposed hillsides, burned or cleared areas, and old mining sites between 2,990 and 3,230 meters (9,800 and 10,600 feet) in elevation.



During the Guanella Pass botanical surveys, moonworts were frequently encountered in roadside habitats above 2,927 meters (9,600 feet). At the time of observation, many plants were immature and could not be conclusively identified to species. Among the mature moonworts, the following four species were encountered: *Botrychium echo*, *Botrychium colorado*, *Botrychium lanceolatum*, and *Botrychium lunaria*. No populations of slender moonwort (*B. lineare*) or pale moonwort (*B. pallidum*) were found during any of the field surveys.

Although the botanical surveys did not positively identify any pale moonwort or slender moonwort, their occurrence along the Guanella Pass Corridor is possible since both species are known to occupy disturbed habitats along roadsides. However, the probability of occurrence is low due to the extreme rarity of both species and the distance of the study area from all known populations. Therefore, although any of the build alternatives may impact individuals, impacts to these two species are not expected, and none of the alternatives would lead to the listing of either species as endangered or threatened.

### **Northern Blackberry (R2 FS Sensitive)**

Another fen species, this small blackberry has been collected twice in the large fen in Geneva Park. It is a species of the far north, common in Alaska, but rarely seen in Colorado. This plant hugs the ground on grassy hummocks among the willows, making it difficult to see. It rarely blooms or sets fruit in Colorado, although a few plants were seen in flower in 1994 and 1995. A single plant was found in fruit in 1996. Thousands of these plants exist in the southern part of the Geneva Park fen.

Under all of the build alternatives, the road along the south end of Geneva Park is reconstructed or rehabilitated along its present alignment. Unplanned disturbance peripheral to this reconstruction action could cause harm to the blackberry.

The proposed alternatives are not a direct threat to the blackberry. To protect the plant, boundaries will be clearly marked (temporarily fenced during construction) around the surveyed species location. This will be made known to the construction personnel, and penalties for transgression will be enforced. This will be done to protect the entire fen area. With implementation of this mitigation, there will be no impact to Northern blackberry.

### **Summary of Effects to Threatened, Endangered, and Sensitive Species**

The BA states that all build alternatives may adversely affect the Canada lynx. No other federally listed threatened or endangered species would be adversely affected under any of the alternatives considered. The BA and BR also state that adverse impacts are not likely to the boreal western toad (a candidate species for listing under the ESA) from any of the build alternatives. The BR states that any adverse impacts occurring to FS sensitive species, for any of the alternatives considered, should not result in a trend toward listing under the ESA.

## **5c. Management Indicator Species**

### ***Affected Environment***

The NF Management Act and FS Handbooks direct the FS to preserve and enhance plant and animal diversity consistent with overall multiple use objectives in order to maintain viability of all native and desirable non-native species in the NF. The 1997 revision of the *Land and*

*Resource Management Plan for the Arapaho and Roosevelt National Forests* and the 1984 *Land and Resource Management Plan of the Pike and San Isabel National Forests* define a series of habitat types and respective MIS for use in analysis of project effects on species and habitat. The affected environment is the same as for General Wildlife.

### ***Environmental Consequences***

The analysis of potential impacts to MIS included review of literature, maps, aerial photography, and databases; contacts with species experts to augment published information and database records of species occurrence; and field surveys during 1995-1996 to assess habitat conditions and the status (presence/absence) of MIS and TES species.

Current and projected future habitat conditions along Guanella Pass Road were considered in the evaluation of potential direct and indirect impacts to wildlife that could result from construction of proposed road improvements, increased traffic, and increased recreational use of NF Lands accessed from Guanella Pass Road. The following MIS were evaluated in the *Biological Report, Guanella Pass Road* (2002):

- white-tailed ptarmigan (*Lagopus leucurus*)
- American pipit (*Anthus rubescens*)
- green-tailed towhee (*Pipilo chlorurus*)
- warbling vireo (*Vireo gilvus*)
- MacGillivray's warbler (*Oporornis tolmiei*)
- Wilson's warbler (*Wilsonia pusilla*)
- white-crowned sparrow (*Zonotrichia leucophrys*)
- beaver (*Castor canadensis*)
- showshoe hare (*Lepus americanus*)
- Rocky Mountain bighorn sheep (*Ovis canadensis*)
- Rocky Mountain elk (*Cervus elaphus*)
- mule deer (*Odocoileus hemionus*)
- rainbow trout (*Oncorhynchus mykiss*)
- brook trout (*Salvelinus fontinalis*)
- pygmy nuthatch (*Sitta pygmaea*)
- golden-crowned kinglet (*Regulus satrapa*)
- Townsend's big-eared bat (*Plecotus townsendii*)

Most of the identified impacts are either due to direct removal of habitat, or are related to increased traffic speed and volume. Higher speeds and volumes increase the potential for direct mortality. As use of the road increases with regional population growth, the potential increases for disturbance of wildlife and wildlife habitats by recreationists during critical periods (nesting, lambing, wintering). These effects would be greater under Alternatives 2 or 3 than under Alternatives 4 or 5, and less under Alternative 6, and least under Alternative 1.

Increased potential for direct mortality due to increased traffic and speed was identified for green-tailed towhee, warbling vireo, MacGillivray's warbler, white-crowned sparrow, and Wilson's warbler. However, effects are expected to be minor or negligible for each of these species. Secondary effects from off-road recreation use were identified for the white-tailed ptarmigan and American pipit. Habitat loss was identified as an impact for the warbling vireo, pygmy nuthatch, and golden-crowned kinglet. All alternatives would increase the potential for roadkill of elk, mule deer, bighorn sheep, and snowshoe hare due to greater traffic volume and higher speeds. None of these effects are expected to reduce the viability of these species or have a substantial adverse impact on the communities that they inhabit.

The West Guanella Pass study area includes scattered willows and encroaches on thicker willows that provide winter habitat for the white-tailed ptarmigan population at Guanella Pass. The white-tailed ptarmigan is an FS MIS. Construction of the parking lot would result in direct loss of winter habitat, and would likely result in a shift in distribution of wintering ptarmigan if the parking lot is used in the winter. The new lot on the west side, located over 275 meters (900 feet) 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. On an average summer weekend day, it is estimated that the increased use of the area may cause wintering ptarmigan to abandon approximately 2.8 hectares (6.9 acres) of habitat adjacent to the proposed parking lot and trail corridors. As noted in the lynx section above, increased recreation use in this area could also affect the lynx.

Elk and mule deer can be expected to cross the road at essentially any point during late spring through fall. Under all of the build alternatives, increased traffic and vehicle speeds would increase the potential for roadkill of these species. However, the increased site distance allowed by the build alternatives will aid in the avoidance of wildlife on the road. None of the alternatives would result in removal of habitat identified as seasonally important to elk or mule deer. Based on the presence and current levels of use of the existing road, the overall seasonal distribution and movements of elk and mule deer within the area of consideration are not expected to be substantially altered by any of the build alternatives.

The Mount Evans-Grant bighorn sheep herd occupies the area south of I-70, east of Guanella Pass Road, and north of US Highway 285. Under all build alternatives, increased traffic and vehicle speeds may alter current patterns of bighorn sheep range use and increase direct mortality. Sheep, which are currently drawn to magnesium chloride deposits which accumulate as a result of dust control efforts on the road, will continue to visit the road corridor. Increased traffic may affect use of a historic bighorn sheep lambing area west of the road in the Arrowhead Mountain-Threemile Gulch area. Sheep that use areas adjacent to the road may also be subjected to increased harassment by humans who leave their vehicles to take close-up photographs, and dogs off leash. Sheep that use the road in the vicinity of Duck Creek and the west-facing slope above Lower Cabin Creek Reservoir will be subjected to increased mortality and harassment by humans and dogs off leash. Recent population estimates suggest that the bighorn population in the Guanella Pass area is increasing and expanding its range. This information suggests that under current conditions, the project will not jeopardize the viability of the mount Evans-Grant herd.

No long-term negative impacts to aquatic MIS or aquatic habitats within the road corridor are expected under any build alternative. Each of the build alternatives involves removal of the culverts that exist at nine locations where the existing road crosses South Clear Creek, Duck Creek, and Geneva Creek. Two stream crossings are eliminated and seven of the existing round

culverts are replaced with natural bottom arch culverts and natural streambed substrate that permit passage of aquatic biota under the road. Long-term habitat benefits are expected to result from reduction of sediment runoff (see **Chapter III.B.2a: Water Quality**).

### **Habitat Complexes**

Effects to twelve different types of habitat complexes were also evaluated in the *Biological Report, Guanella Pass Road* (2002). Mapping has not been completed for the Pike-San Isabel NF, so estimates of the areas of affected habitat complexes considered only the Arapaho-Roosevelt NF.

None of the alternatives would affect the “Snags and Coarse Woody Down and Dead”, “Effective”, or “Interior” habitat complexes. In addition, Alternative 6 would have no effect on “Lodgepole Pine” or “Old-growth Forest”. In all cases except where impacts were the same, Alternatives 2 and 3 would have more impact than Alternatives 4 and 5, which would have more impact than Alternative 6.

The coarse colluvial slope below the Weber monkeyflower cliff that will be affected by any of the construction alternatives is an example of a community listed by the FS as an environmental element to be protected. In addition to constituting an MIS community, this area includes a population of Rocky Mountain columbine, which is a rare Colorado endemic species. The Duck Lake Materials Source Area includes an even larger population of Rocky Mountain Columbine that occurs in a community located on a landslide that has been stabilized by development of alpine tundra vegetation.

### **5d. Colorado Natural Heritage Program Species**

Forty-nine plants classified as sensitive by the CNHP were evaluated in the *Guanella Pass Road, Colorado Forest Highway 80, Biological Assessment/Biological Evaluation* (April 1998). Although these species have no legal protection, they are considered rare and imperiled within Colorado.

Four CNHP species of moonwort that tend to grow in disturbed areas such as gravelly road shoulders may be affected; however, they should continue to exist along the reconstructed road shoulders. It was also found that any of the build alternatives might affect tall fleabane, black-headed daisy, pinnate fleabane, and northern twayblade. The few plants that might be removed by construction of any of the alternatives will not cause a trend toward listing as endangered or threatened by the USFWS. The coarse colluvial slope below the Weber monkeyflower cliff includes a population of Rocky Mountain columbine, which is a rare endemic Colorado species. The Duck Lake Materials Source Area includes an even larger population of this species which would be affected by all build alternatives. Mitigation for adverse effects will include a transplantation effort in coordination with FS botanists.

### **5e. Parking Area Impacts on Plants and Animals**

#### *Affected Environment*

Three parking areas and their access roads along Guanella Pass Road were individually assessed for potential habitat for threatened, endangered, and sensitive plant and animal species. Other parking areas were included in the corridor analysis. Documentation for the assessments are

included in *Guanella Pass Road Colorado Highway 80 Parking Lots Biological Survey and Wetland Delineation* (ERO Resources Corporation, September 2002).

The proposed parking lots are designated Abyss, Duck Creek, and West Guanella Pass. Because the fieldwork was done in mid-September of 2001, most of the plant species were past their optimal survey windows. Therefore, the study areas were assessed for the presence of potential habitat rather than the presence of populations or individuals. The sites were thoroughly covered by a pedestrian survey in the event that late bloomers or species with distinctive vegetative characteristics were visible. Additional surveys will be performed in the spring of 2002 to ensure that no occurrences were overlooked.

### ***Environmental Consequences***

No individuals or populations of TES species were found during the single pedestrian survey of each study area. Given the context and the scope of the overall project, the addition of these small study areas to the larger study area does not change the determination of impacts to species provided in the BR.

The West Guanella Pass parking study area is located in alpine turf, an FS MIS plant community. Construction of the parking lot would impact about 0.9 hectare (2.2 acres) of this community type. Although the area of impact is relatively low, because this community type is extremely difficult to restore or create, in practical terms, the affected vegetation in the area of impact would be a permanent loss.

## **5f. Fisheries**

### ***Affected Environment***

The Guanella Pass Road generally parallels streams of the Geneva Creek drainage from Grant north to the summit of Guanella Pass. From Guanella Pass, the road parallels South Clear Creek to Georgetown. Duck Creek, a Geneva Creek tributary, flows from Duck Lake, an artificial impoundment, which collects water from wetlands just below the summit of Guanella Pass and Square Top Lakes. After flowing southward about six kilometers (four miles), Duck Creek joins Geneva Creek. From Geneva Creek's confluence with Duck Creek to its joining the North Fork of the South Platte River at Grant, flows of Geneva Creek are augmented by several tributaries, including Bruno Gulch and Scott Gomer Creek.

South Clear Creek originates from wetlands and small lakes just below Guanella Pass and flows northward to its confluence with Clear Creek. About three kilometers (two miles) from its sources, South Clear Creek is joined by Naylor Creek. Leavenworth Creek, the only other major tributary of South Clear Creek, enters South Clear Creek about three kilometers (two miles) upstream of Georgetown. Both South Clear Creek and Duck Creek begin at elevations exceeding 3,500 meters (11,400 feet), and Geneva and South Clear Creeks end near 2,590 meters (8,500 feet).

South Clear Creek supports brook, brown, and rainbow trout. Brook trout is the most common and widespread of the species in South Clear Creek. Geneva Creek (downstream of the Scott Gomer Creek confluence) also supports a mixed community of rainbow, brown, and possibly brook trout.

Existing quality of streams within the project area and their resultant capabilities to support fish communities can be broadly separated into those reaches affected by acid-sulfate weathering processes occurring in their watersheds, and those reaches that are not. Geneva Creek throughout most of its length is considered impacted by acid-sulfate weathering. Leavenworth Creek, a South Clear Creek tributary, has also been affected by mining activities high in its watershed and the acid-sulfate weathering process. Characteristics of streams affected by such weathering are low pH and high amounts of sulfate, iron, copper, lead, zinc, and other trace elements either dissolved in the water or attached to suspended sediments. Dissolved trace elements are considered more available to aquatic plants and animals than their particulate forms. These trace elements are carried to streams in sediment runoff.

Substantial runoff within the project area occurs primarily during snowmelt when dilution by higher flows reduces concentrations of elements. A runoff pulse initiated by rapidly warming spring temperatures or rainfall onto snow sometimes push the sediment laden water through the high gradient system in a relatively short period of time. This runoff period of May through July precedes the autumn spawning period of brook trout but may affect rainbow trout. The highest sediment loads are carried on the rising limb of runoff flushing through the system during spring, the spawning period of rainbow trout. Depending upon the temperature-triggered time of rainbow trout spawning, the size of particles in suspension, and the location of spawning gravels relative to points of sediment introduction, reproductive success of the rainbow trout may be affected.

The particle size of sediment introduced to the stream also affects the ultimate availability of trace elements. The finer the particulate, the farther downstream it is carried and the longer it stays in suspension. The sediment eroding from the existing road is primarily composed of fine particles, increasing the likelihood that the particle will be transported downstream to a reach of low velocity before settling. Base materials in both drainages are mainly gravel, cobble, and boulders. Sand and pea gravel are common in low gradient reaches and where water velocity was slow (e.g., pools and eddys). Silt is predominant in beaver ponds, which are common in upper reaches of South Clear Creek. A detailed inventory is provided in *Fisheries Assessment for the Proposed Guanella Pass Road Improvement Project* (Western Consulting Group, February 2002).

### ***Environmental Consequences***

Since impacts to fisheries are tied directly to water quality issues, much of the detailed information supporting conclusions in the Fisheries section is contained in **Chapter III.B.2a: Water Quality**.

The conditions resulting from acid-sulfate weathering in the affected reaches of Geneva Creek and Leavenworth Creek are considered to be dominant influences on the aquatic communities of those sites regardless of any alternative implemented. The water quality (pH, high trace elements) and resultant habitat quality (low abundance and diversity of prey items) that are considered to be limiting to trout persistence in these stream reaches most likely pre-existed the initial construction of the road 50 years ago and are not likely to be made either better or worse by its continued use as it is, or following any planned rehabilitation or reconstruction.

## Alternative 1

Alternative 1 would produce no short-term impacts; however, it would also provide none of the long-term benefits from the sediment reduction measures that would be included, in varying degrees, in the other alternatives.

## Alternatives 2-6

Fish are impacted by sediment loads, which affect spawning and nursery habitats and the availability of prey. Under Alternatives 2-6, there will be temporary impacts (particularly sediment loading) to fish habitat during road rehabilitation and reconstruction activities. This will be localized and minimized by appropriate sediment control measures. The relative impact of such work, and its duration, would vary with type of activity, distance from stream, and measures taken to mitigate impacts. These impacts may temporarily reduce trout abundance, but following completion of work and stabilization of disturbed areas, trout numbers can be anticipated to return or increase to at least pre-disturbance levels due to permanent erosion control measures. Hardening of the road surfacing, addition of road drainage culverts, slope stabilization, replacement of existing stream crossings with natural-bottom culverts, and stabilization of stream banks would contribute to improvement of trout habitat.

The long-term effects of Alternatives 2-6 on fisheries are related to the amount of sedimentation that would enter streams from the roadway. As discussed in **Chapter III.B.2a: Water Quality**, the majority of sediment from an unpaved road comes from the surfacing. The least amount of surface sediment would come from Alternative 2, paving the entire road. Alternative 6 would harden 86 percent of the road surface (56 percent pavement and 30 percent macadam), and Alternatives 4 and 5 would be close behind with about 86 percent pavement. Alternative 3 would pave 48 percent.

The report *Sedimentation Problems Identified on the Guanella Pass Road, Aquatic and Soil Resource Recommendations* (FS, October 25, 2001) identifies problem areas along the Guanella Pass Road and prioritizes them for improvement. Any of the build alternatives would focus on improving areas identified as having priority 1 or 2 in the report; however, the ability to perform improvements is dependent upon the type of construction proposed for any specific area. Alternatives 2 and 3 would provide the greatest opportunity to repair existing erosion problems because they have the most full reconstruction, followed by Alternative 5, then 6. Alternative 4 provides the least opportunity of the build alternatives because large sections of the road are left alone, and Alternative 1 provides the least amount of opportunity to reduce sediment runoff. As with water quality, long-term benefits to fisheries are expected for any of the build alternatives.

All rehabilitation and reconstruction alternatives for Guanella Pass Road would have some short-term negative impact on existing trout habitats in the Geneva and South Clear Creek drainages due to erosion of new slopes before vegetation becomes established. Alternatives 2-5 would have greater impact than Alternative 6, and all build alternatives would have more impact than Alternative 1 (No Action).

## 6. Construction Impacts

### 6a. General Construction

During the construction season for any of the build alternatives, trucks and other vehicles will pass through Grant and Georgetown carrying materials and construction workers. This will result in increased noise, air pollution, and traffic in Grant and Georgetown.

Construction of cuts and fills removes vegetation and disturbs soils, intensifying the effects of natural erosion. Before cuts and fills revegetate, increased sedimentation from erosion can be expected. Road construction generally increases sediment yield in the first few years before cut and fill slopes revegetate. Chronic inputs of sediment into stream systems from slopes that do not revegetate can have a detrimental effect on aquatic organisms. BMPs for erosion control will be used to reduce sediment transport.

Construction activities will temporarily impact air quality and wildlife. Dust particles stirred up during construction and vehicle emissions from construction equipment and delayed vehicles will temporarily affect localized air quality. Construction dust will be reduced by spraying the construction area with water. Wildlife in the immediate vicinity may be affected by the increased noise and activity during construction operations. Selective siting and timing of construction operations will help reduce impacts to wildlife in some sensitive areas, such as nesting sites.

There could be spills or leaks of chemical substances from construction equipment. Restrictions on construction operations make it unlikely that they would occur directly into streams. It is more likely that if spills were to occur it would be on soils nearby and the substance would migrate into streams or groundwater. In the event of an accidental spill, the project specifications require the contractor to implement containment measures immediately and notify the appropriate authorities.

Construction will discourage recreation use of the Guanella Pass area near the construction activities. Construction related impacts such as noise, dust, visual impacts, and traffic delays will make the construction zones less appealing to visitors. Construction activities are not compatible with the “get away from it all” desires of many recreationists. However, construction will be performed in limited areas in any given year so most of the route will be relatively unaffected.

Small landslides occur occasionally during construction and sometimes on newly constructed roadways. Most of these landslides are very minor and are repaired without major adverse affects. Occasionally, a major landslide that has severe adverse environmental impacts occurs. Some risk is always involved in earthmoving activities, but it is a major design goal to ensure that those risks are minimized both during and after construction. No major instabilities are known that might be affected by the build alternatives.

### 6b. Construction Cost

Table III-19 shows the estimated construction cost for each alternative. The construction costs shown in the table are for construction contracts only, and do not include preliminary engineering, environmental analysis, mitigation, ROW, utilities, and construction administration, which typically all total about 30 percent or more of the construction contract. These are



conceptual costs for comparison of the alternatives, based on preliminary design, and will change during final design. The cost estimates include earthwork, wall quantities, paving quantities, guard rail, clearing and grubbing, revegetation, drainage, traffic control, and erosion control. The construction cost for Alternative 6 is less than Alternatives 2-5, though comparable to Alternative 4. This is because Alternative 6 has 37 percent reconstruction (18 percent of which is light reconstruction) and 63 percent rehabilitation, whereas Alternative 4 has 51 percent reconstruction and 49 percent no action. The estimate is less than the cost for Alternatives 2, 3, and 5 because of the increased amount of rehabilitation (and decreased amount of reconstruction) associated with Alternative 6.

The cost of reconstruction of the roadway will be paid for using Forest Highway Funds. Typically the road management agencies are responsible for acquiring any needed additional ROW. The counties and town will continue to be responsible for the cost of road maintenance. See **Chapter III.C.11: Maintenance Cost** for information on maintenance costs.

**Table III-19**  
**Total Estimated Construction Cost for each Alternative**  
**(\$ Million – 2002 Dollars)**

Alternative	Total Construction Cost
Alternative 1: No Action	\$0.0
Alternative 2: Reconstruct and Pave	\$46.1
Alternative 3: Reconstruct to Existing Surface Type	\$44.6
Alternative 4: Partially Reconstruct and Pave	\$29.2
Alternative 5: Partially Reconstruct/Partially Rehabilitate	\$35.9
Alternative 6: Preferred Alternative	\$28.9

Source: *Guanella Pass Road Preliminary Cost Estimates & Alternative Cost Comparison Report, April 1996*<sup>5</sup>.

### 6c. Hauling

It is estimated that Alternatives 2 and 3 would require 5 years to construct and Alternatives 4, 5, and 6 would required 4 years to construct. At higher elevations, construction under any of the alternatives will take place between May and October depending upon the weather. The construction season may be extended about two months from April to November at lower elevations, such as in the Towns of Georgetown and Grant. The number of days required to construct a certain section of the road is dependent on the type of construction (full reconstruction, light reconstruction, and rehabilitation) and the type of surface to be constructed. In general, full reconstruction takes longer than light reconstruction or rehabilitation and a paved surface takes longer than a gravel surface.

Construction is scheduled to begin at the higher elevations and move to lower elevations toward Grant or the Town of Georgetown. This minimizes material from being hauled over newly constructed or rehabilitated areas. All material removed from the existing road during construction is recycled and used in the project.

The FHWA proposes to obtain all aggregate material for constructing the aggregate base, hot asphalt concrete pavement and select backfill for the majority of project from the Duck Lake and

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<sup>5</sup> Construction cost data was converted from year 1996 dollars to year 2002 dollars based on the Consumer Price Index for Urban Consumers increase over that time period.

Geneva Ski Basin parking area material source sites. Aggregate material for the portion of the road from station 1+000 to station 7+000 would be hauled in through Grant. All other materials (culvert pipes, guardrail, etc.) required for constructing the portion of the road found in Park County would be hauled in through Grant. All other materials required for constructing the portion of the road found in Clear Creek County would be hauled in through the Town of Georgetown.

Based on preliminary designs for Alternatives 2-6, the estimated number of truckloads required to haul in the needed materials for each alternative is found in Table III-20. This estimate is based on the assumption that there is sufficient aggregate at Duck Lake and the Geneva Ski Basin parking area for the portion of the road extending from 7+000 to 39+000 for all alternatives.

**Table III-20**  
**Estimated Construction Truck Trips Required to Build Each Alternative**  
**(Round Trips)**

	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6
Through Grant	0	1310	1270	830	1020	820
Through Georgetown	0	3210	3110	2030	2500	2010

The above number of truck trips are preliminary and subject to change as the project progresses through final design. The types of trucks considered in this estimate are 18-wheelers and concrete trucks. If smaller trucks are used then more truck trips would be required than what is presented in Table III-20. The estimated truck trips would be irregularly dispersed throughout the project construction period. On some days there will be practically no construction truck traffic traveling through Grant or Georgetown. On other days when certain construction activities are taking place, such as construction of retaining walls, construction traffic through these communities will be more frequent.

In the Town of Georgetown, the FHWA has considered a number of haul routes in an attempt to minimize the impacts of construction hauling on the community. These haul routes include:

- Argentine Street to Second Street. The advantage of using the Argentine Street route is that it routes traffic away from the school and businesses. The disadvantage of this route is that 18-wheelers are unable to negotiate the corners and oncoming traffic would need to be stopped with flaggers.
- Rose Street to Second Street. The advantage of using this route is that it accommodates 18-wheelers. The disadvantage of this route is that it routes the traffic past the school and businesses.
- Bypass of Georgetown using a temporary bridge (for construction traffic only) over Clear Creek east of the Loop Railroad's high bridge. The advantage of this route is that the majority of trucks hauling materials would not interfere with the Town of Georgetown streets. The trucks would follow a route up Loop Road to the bypass bridge that would

connect to the second switchback above Georgetown. The disadvantage is that the route would require a temporary easement over private property, which may not be feasible to obtain. In addition, truck traffic may interfere with tourist traffic to the Georgetown Loop Railroad and the route would impact a historic site.

- The Town of Georgetown requested the FHWA to consider a fourth alternative haul route. This route would require the construction of a permanent bridge over Clear Creek on Seventh Street between Brownell and Argentine Streets (Figure III-21). Construction traffic would turn off Brownell Street onto 7<sup>th</sup> Street and then 18-wheelers would turn onto Rose Street and smaller truck traffic would turn onto Argentine Street. The advantages of this haul route are that it distributes truck traffic among two routes and the construction of the new bridge over Clear Creek would assist the Town of Georgetown in its future traffic management needs. A disadvantage is that truck traffic would still go past businesses and the school. However, this truck traffic would be reduced in numbers because some of the truck traffic would be traveling up Argentine Street. Another disadvantage is that some private ROW may need to be acquired for the construction of the bridge. The FHWA is currently pursuing the implementation of this haul route option.

To minimize impacts to the communities in both Clear Creek and Park Counties, the contractor's hauling activities will be limited as much as possible to times that will be the least disruptive to businesses and residents along the haul route. A list of commitments can be found in **Chapter IV.I.2: Hauling**.

## **6d. Materials Source Locations and Staging Areas**

Roadway design will attempt to balance the material taken from cuts with the amount used in fills. Where this is not possible, borrow material will be obtained from sites near the construction areas.

The materials source locations along the roadway are being identified as mitigation for truck hauling in Park County and Clear Creek County. Preliminary testing has indicated that two sites in the project corridor are suitable for use as materials sources.

The first site is near Duck Lake just south of Guanella Pass at station 19+200 on the east side of Guanella Pass Road. This location was probably used as the materials source for the construction of the Geneva Basin Ski Area parking lot and access road. Initial testing of the material on the Duck Lake site has indicated that it is suitable for use as a road base and surface course for either a paved or gravel road.

There will be increased noise, dust, and traffic in the vicinity of the Duck Lake borrow site when material is being processed. The contractor will probably want to reduce costs by performing all of the quarry work needed for the route in one construction season, which would likely require work at the site from June through October.

The second site is the Geneva Basin Ski Area parking lot. The access road to the site is located at station 18+250. Because of its location, size, and layout, this site can be used for more than just a materials source. The site has the potential to be used as a staging area for equipment and for a hot-mix asphalt plant. Like the Duck Lake site, initial testing of the material has indicated that it is suitable for use as a road base and surface course for either a paved or gravel road.

**B  
E  
F  
O  
R  
E**



*Figure III-21  
Permanent Hauling Bridge on 7<sup>th</sup> Street Between Brownell and Argentine  
In Georgetown*

**A  
F  
T  
E  
R**



Environmental impacts were evaluated at each of these sites and the impacts will not pose any threat to the environment. The Duck Lake site would be restored in accordance with a plan prepared by the FS. The Geneva Basin Ski Area parking lot is a proposed wetland mitigation site.

## 6e. Construction Noise

Noise from construction equipment and operations will possibly impact the residents of Georgetown and Grant, as well as hikers, campers, and tourists in the vicinity of Guanella Pass Road. Impacts will vary depending on the operations taking place and the location of construction during that time. Possible mitigation techniques to control noise during construction include restricting noisy construction operations to specific times of the day and specific days of the year and requiring adequate mufflers on all equipment. These measures help eliminate construction noise during sensitive nighttime and early morning hours, and minimize it at other times.

To determine the impacts that the construction noise will have on area residents and tourists, nine representative noise analysis locations were chosen (see Figure III-22) based on their level of use. Daytime and nighttime existing noise levels were measured at each site to provide background noise values, listed in Table III-21. Construction noise was modeled using software based on *International Standards Organization (ISO) Standard 9613-2, Acoustics – Attenuation of Sound During Propagation Outdoors*. The model was used to predict the impacts at each analysis location of the loudest and closest stage of construction to occur during implementation of the Preferred Alternative. The model also incorporated the noise from the two material source sites (Duck Lake and Geneva Basin). The model produced a ‘worst case’ noise value, since the loudest construction phase decibel values were input and the model assumed ideal downwind sound propagation from the source to the receptor. In contrast, a 20 to 30 dB reduction in noise levels can be seen when the wind is blowing from the receptor in the direction of the source. The modeled noise data is presented in Table III-22.

**Table III-21**  
**Background Noise Levels Along Guanella Pass Road**

Site No.	Site Description	Background Noise – dB(A)	
		Daytime	Nighttime
1	Guanella Pass Campground	44	43
2	Summit	35	23
3	Grant, 0.4 kilometer (0.25 mile) from 285	54	*
4	Burning Bear Campground	37	28
5	Grant, Next to Cindy's Bar	63	52
6	Georgetown, Base of Guanella Pass Road	53	48
7	Clear Lake Campground	38	*
8	Geneva Creek Picnic Area	58	*
9	Tumbling River Ranch	45	*

\* Insufficient data collected for meaningful results.

**Table III-22**  
**Predicted Construction Noise Levels Along Guanella Pass Road**

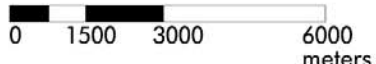
Site No.	Site Description	Closest Construction Activity – meters (feet)	Predicted Noise Levels – dB(A)
			Maximum Construction Noise*
1	Guanella Pass Campground	114 (375)	69
2	Summit	53 (175)	74
3	Grant, 0.25 mile from 285	53 (175)	74
4	Burning Bear Campground	53 (175)	74
5	Grant, Next to Cindy's Bar	53 (175)	74
6	Georgetown, Base of Guanella Pass Rd	15 (50)	88
7	Clear Lake Campground	56 (185)	75
8	Geneva Creek Picnic Area	56 (185)	69
9	Tumbling River Ranch	56 (185)	69

\* Maximum construction noise at each site is assumed to occur during the period of closest construction activity.

The predicted construction noise levels were compared to the background values to determine their potential audibility. The audibility of an intruding sound in the presence of background sounds is difficult to quantify. In general, audibility depends on the loudness of the intruding sound relative to the background, the frequency content of the sound, and the intermittence of the sound. For this study, a simplification has been made to allow for easy categorization of the construction noise in terms of its audibility. The categories are as follows:

1. Construction noise is considered “never audible” when its predicted noise level is 20 dB or more lower than the background noise level, or is under 10 dB(A)<sup>6</sup>
2. Construction noise is considered “sometimes audible” when its predicted noise level is between 10 and 20 dB less than the background noise level, or is under 20 dB(A)
3. Construction noise is “always audible” when its predicted noise level is between 0 and 10 dB less than the background noise level
4. Construction noise is “very audible” when its predicted noise level is greater than the background noise level

<sup>6</sup> The units dB(A) indicate A-weighted noise levels, which are sounds measured with similar sensitivity to frequency as the average human ear.



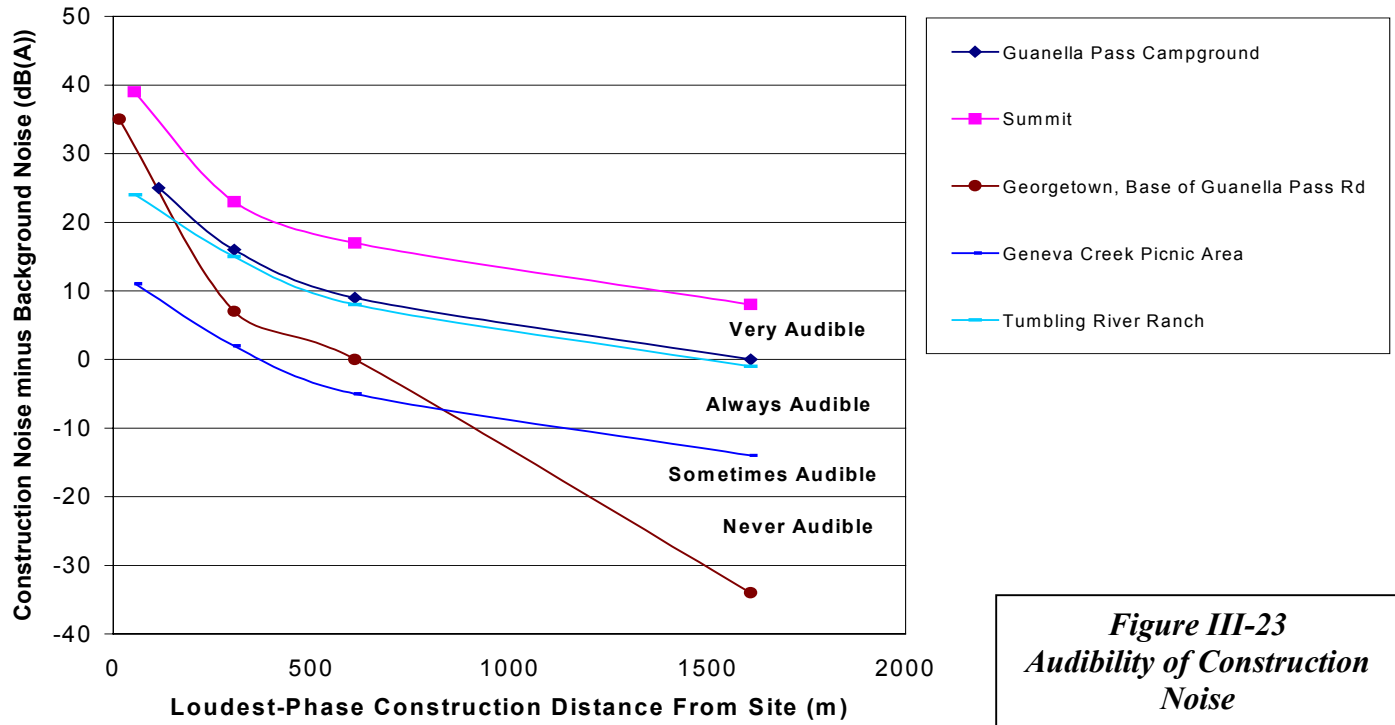
Approximate Scale  
 1: 120,000  
 1" = 10,000'

Contour Interval  
 12 meters (40 feet)

**Figure III-22**  
**Noise Analysis Locations**

According to the background and predicted noise data, the heavy equipment construction noise is “very audible” at each site when closest to the site. Audibility diminishes as the construction activity moves further away from the analysis location and the noise is attenuated. Figure III-23 illustrates the diminished audibility of the loudest-phase construction activities at several of the noise analysis locations as the construction activities move away from the sites. Though all analysis locations are not depicted in the figure, it was noted that the construction noise attenuation rates of Clear Lake Campground (site 7) closely matched those of the Summit (site 2), and the construction noise attenuation rates of Grant (site 3) closely matched those of Geneva Creek Picnic Area (site 8).

In addition to the heavy equipment noise, the construction activities will produce noise caused by blasting at the two materials source locations (Duck Lake and Geneva Basin)<sup>7</sup>. The blasting sounds are of a very low frequency and vary in intensity depending on the amount of explosive used per blast. The blasting noise levels were simulated based on methodology developed by the U.S. Bureau of Mines (*Report of Investigation 8485, Structural Response and Damage Produced by Airblast*, 1980). For the simulations, a high-end blast noise value was assumed (charge per delay of 3,447 kilograms (7,600 lbs)). Due to the low frequency of the sound waves produced by blasting (<20 Hz), and the ability of low frequency waves to bypass obstacles, no barriers were used in the model. The results of the blasting noise simulations for each of the nine sites are given in Table III-23. For comparison with site background levels, the blasting dB(A) values are given, though presently the correlation to human perception of low-frequency sounds is not well understood. While the blast noise levels exceed most background noise levels, the noise is low-frequency and non-repetitive. Such noises are typically not annoying to humans.



**Figure III-23**  
**Audibility of Construction Noise**

<sup>7</sup> Material from Geneva Basin is anticipated to be removed without the use of blasting. Noise analysis assumed blasting at Geneva Basin as a worst case condition.



Construction activities will also result in noise due to the use of Occupational Safety and Health Administration (OSHA)-mandated equipment backup alarms. These alarms are used to alert workers to the dangers present when heavy equipment is backing up and operator vision is limited. The high frequency (approx. 1250 Hz) and intermittent nature of these alarms tend to increase their perception by humans. The backup alarm noise was modeled, without foliage or barriers (worst case), at various distances (see Table III-24). Backup alarm noise is predicted to be 36 dB(A) at a distance of 3.2 kilometers (2 miles). Therefore, when construction is within two miles of a receiver location, the backup alarms are likely to be audible at that location. High frequency sounds are sensitive to atmospheric conditions such as wind direction and humidity. The modeled noise levels assume that wind is blowing from the source to the receiver; under other wind conditions, the noise levels could be as much as 25 dB lower.

**Table III-23  
Construction Blasting Noise Simulations**

Site Number	Site Description	Blasting At Duck Lake		Blasting At Geneva Basin	
		Distance to Site – meters (feet)	dB(A)	Distance to Site – meters (feet)	dB(A)
1	Guanella Pass Campground	4,115 (13,500)	40	4,877 (16,000)	39
2	Summit	2,438 (8,000)	45	3,048 (10,000)	43
3	Grant, 0.25 mile from 285	14,021(46,000)	30	13,106 (43,000)	30
4	Burning Bear Campground	7,010 (23,000)	36	6,248 (20,500)	37
5	Grant, Next to Cindy's Bar	14,021 (46,000)	30	13,106 (43,000)	30
6	Georgetown, Base of Guanella Pass Rd	14,325 (47000)	31	15,239 (50,000)	38
7	Clear Lake Campground	8,534 (28,000)	34	9,449 (31,000)	33
8	Geneva Creek Picnic Area	11,887 (39,000)	31	10,973 (36,000)	32
9	Tumbling River Ranch	9,296 (30,500)	33	8,534 (28,000)	34

**Table III-24  
Back-Up Noise Alarm Modeling**

Distance - meters (feet)	Backup Alarm Noise Level (dB(A))
152 (500)	68
305 (1,000)	61
610 (2,000)	55
1,609 (5,280)	45
3,218 (10,560)	36

Effects from construction noise can be expected to be of greater duration for alternatives that include more construction. Alternatives 2 and 3 would have the most effect, then Alternative 5,

then 6, and the least with Alternative 4, which includes 49 percent no action. Potential construction noise effects to wildlife are considered in the specific sections dealing with wildlife.

## 6f. Vibration

A nondestructive testing investigation was conducted at historic structures in Georgetown to measure the effect that construction traffic might have on the historic buildings within the town during the proposed future construction of Guanella Pass Road. During construction of the surfacing test strips in June and July of 2001, the Vibration Measurement method was used to measure the vibrations at the properties caused by passing 10-wheeler trucks loaded with paving materials and construction equipment.

A conservative standard developed by the Swiss Association of Standardization was used to determine potential impacts. For historic masonry structures, this standard recommends that peak particle velocity be less than 3 mm/s (0.12 in/s) for frequencies between 10-30 Hz. For higher frequencies, the standard allows peak particle velocity up to 5 mm/s (0.20 in/s).

Vibration data was gathered from eight locations as shown in Table III-25. The maximum vibration measured during truck activity occurred at the back of the Hamill House, located 10.7 meters (35 feet) from the street. Although this measurement was taken during truck activity, it may not have been caused by a truck. Lawn maintenance was occurring near the seismograph and may have been responsible for this reading. Also, since this vibration occurred at a high frequency, it falls below the Swiss standard.

On July 19, 2001, an additional study was conducted to supplement the vibration levels previously measured in town. A loaded 18-wheeler belly dump truck (36,000 kilograms [80,000 pounds] in weight) was driven on Loop Road, and a pavement bump was used to increase vibration. The loaded truck traveled across the pavement bump at the three following speeds: 15 km/hr, 30 km/hr, and 50 km/hr (10 mph, 20 mph, and 30 mph). The peak particle velocities measured 1.5 meters and 5 meters from the lane are shown in Table III-27. Although the truck was heavier than those used to haul construction materials through Georgetown and traveled at a higher speed, maximum vibration falls well below the Swiss standard.

The results of these studies indicate that construction traffic did not produce damaging vibrations. All vibration events that occurred during all truck activities fell below the conservative Swiss standard threshold limits. More detailed information can be found in the report: *Nondestructive Testing Investigation Vibration/Noise Measurement Study Construction Traffic Through Historic District Georgetown Colorado* (Olson Engineering, October, 2001).

## 6g. Traffic Delays

### Clear Creek County/Town of Georgetown

Some reconstruction activities may require part-day closures. For delays longer than 30 minutes, public notice will be given in advance through the local media and by informational signs. In coordination with businesses and landowners, a construction schedule will be created to minimize excessive delays and limit the times of day construction vehicles travel through the Town of Georgetown. The schedule would be made public to inform residents and other traffic of possible construction delay periods. If the 7<sup>th</sup> Street bridge is constructed and used as a haul

route, traffic disruptions through town will be less than if construction traffic were forced to wind through town to use the existing 11<sup>th</sup> and 6<sup>th</sup> Street bridges.

Park County/Grant

As with the Clear Creek County side, part-day road closures will take place only during rock blasting operations in reconstruction areas. Traffic delays of up to 30 minutes are typical through the construction zone. For delays longer than 30 minutes, public notice will be given in advance through the local media and by informational signs. Coordination will be made with businesses and landowners to accommodate special needs. A construction schedule will be made public to inform residents and the traveling public of possible construction delay periods.

**Table III-25**  
**Summary of Peak Particle Velocities**

Address	Peak Particle Velocity (During Hauling Hours)	
	mm/s	in/s
505 2nd St	2.604	0.103
207 Rose St	1.905	0.075
200 Rose St	1.016	0.040
300 Rose St	2.413	0.095
Hamill House (front)	1.016	0.040
Hamill House (back)	3.810	0.150
6th and Rose St	1.524	0.060
Rooftop of 6th and Rose St	0.508	0.020
927 Rose St.	0.635	0.025

**Table III-26**  
**Swiss Standard for Vibrations in Buildings**  
**Building Class IV (objects of historic interest)**

Vibration Source	Frequency Range (Hz)	Peak Particle Velocity
Machines, Traffic	10-30	3.05 mm/s (0.12 in/s)
	30-60	3.05-5.08 mm/s (0.12-0.2 in/s)
	>60	5.08 mm/s (0.2 in/s)

**Table III-27**  
**Vibration Study Conducted Along Loop Drive on 7/19/01**

Source	Approximate Speed km/h (mph)	0.15 m (0.5 ft) from Southbound Traffic mm/s (in/s)	4.5 m (15 ft) from Southbound Traffic mm/s (in/s)
Truck*, Uphill (South)	15 (10)	0.1905 (0.0075)	0.0686 (0.0027)
Truck*, Downhill (North)	15 (10)	0.0889 (0.0035)	0.0381 (0.0015)
Truck*, Uphill (South)	30 (20)	0.2489 (0.0098)	0.0762 (0.0030)
Truck*, Downhill (North)	30 (20)	0.1168 (0.0046)	0.0711 (0.0028)
Truck*, Uphill (South)	50 (30)	0.3480 (0.0137)	0.1372 (0.0054)
Truck*, Downhill (North)	50 (30)	0.2311 (0.0091)	0.0762 (0.0030)
*Truck = loaded 18-wheel belly dump (36 metric tons (40 tons))			

## 6h. Economic Impacts

In addition to the potential construction impacts described above, representatives of a local dude ranch have expressed concerns about construction impacts directly affecting their business. Some of these concerns include the noise, dust, and visual impacts produced by construction activities; safety hazards; fewer guests that would result from construction activity; the diminished experience for guests that would result from construction activities in the area; traffic delays along the entire route; and the construction schedule between Grant and Geneva Park. The dude ranch has indicated that any construction activity between Grant and Geneva Park from June through August would be unacceptable to them.

The Town of Georgetown has indicated that any construction on Guanella Pass Road will result in an economic impact that may be unacceptable to the business owners in the town. Businesses in Georgetown rely on the mountain town character and setting that drive the tourism industry in Georgetown.

### Case Studies

To better assess the possible economic impacts to surrounding communities resulting from the proposed construction activities on Guanella Pass Road, three case studies are provided. These case studies come from three communities that have experienced roadway construction projects similar to the proposed improvements to Guanella Pass Road. These communities include Empire, Colorado; Cody, Wyoming; and Buena Vista, Colorado.

### **Empire, Colorado**

US 40 runs south and east in northern Colorado, ending in Empire, Colorado. Recently, the road underwent construction improvements that began in April 2001 and ended in early September 2001. Information about economic impacts to the community was obtained from the mayor of Empire and the accountant for Clear Creek County.

Some similarities of the US 40 work to the Guanella Pass potential improvements includes the “recreation destination” nature of the road corridor and surrounding communities and the size of the community of Empire in comparison to Grant.

The mayor of Empire felt that it would be difficult to report the “before” economic situation in Empire because the town hall burned last November, which housed the Hard Rock Cafe (a large tourist attraction). Also, the economy statewide has seen a downturn in recent months, so it is difficult to measure local impacts. However, the mayor felt that the negative impacts that they thought would occur from construction were never realized. This is mostly because of the patience of the community throughout the construction. The community was open to the construction as they could see the need for improvements and knew that the end result would be worthwhile.

Businesses such as restaurants actually saw an improvement in many cases because of the patronage of construction workers. The Dairy King, a local restaurant, reported increased sales in July 2001 as compared to July 2000. Herb’s Shop n’ Go also had a good season financially. Some businesses were down, but not necessarily because of construction. A local antique store, for example, was down financially for the year. The business’ economic losses were possibly due to a number of factors, such as a slow economy or construction impacts.

Other observations made by residents of Empire were that the construction companies were very considerate in how they conducted their work and were also very accommodating. There may be an economic improvement coming for the town because of the road project, as it has provided a “facelift” for the town.

The accountant for Clear Creek County provided gross and retail sales, by quarter, for Empire. These numbers were for the period before the construction. Gross and retail sales information for the quarter during the heaviest construction (July through September, 2001) was obtained from the Colorado Department of Revenue. Both gross and retail sales increased during construction as compared to the previous quarter and the same quarter in 2000.

### **Cody, Wyoming**

US 14 runs east-west from the East Entrance of Yellowstone National Park and goes through Cody, Wyoming. Recently, the road underwent construction improvements that began in 1995 and ended in the fall of 2001. Information about economic impacts to the community was obtained from staff at the Cody Chamber of Commerce.

The US 14 project consisted of 27 miles of reconstruction from the East Entrance of Yellowstone towards Cody. The project consisted of four sections – three outside the park (Wyoming Department of Transportation jurisdiction) and one inside the park (park jurisdiction). Two portions outside of the park, about 18 miles, are completed thus far. Construction on the third portion, seven miles from the park, will begin in the spring of 2003.

A major difference between the US 14 project and the proposed improvements to Guanella Pass Road is that the Chief Joseph Scenic Byway serves as an alternative entrance to the park (Northeast entrance). This enabled visitors entering Yellowstone to pass through Cody using the alternative route during construction. Also, roads in Cody are much wider and can easily accommodate truck traffic. Some similarities include winter closures of the roadway, the functions of Cody and Georgetown serving as “gateways” to a feature attraction, and the presence of guest/dude ranches along the affected roadway.

The following information in Table III-28 was obtained from the Chamber of Commerce for the periods prior to and during construction.

**Table III-28**  
**Commerce Prior to and During Construction Activities - Cody, Wyoming**

Economic measure	1992 (pre-construction)	1997 (during peak construction activities)	2000 (construction activities slowing down)
US 14, Yellowstone E. entrance yearly traffic volumes	541,847	277,761	333,739
Chief Joseph Scenic Byway, Yellowstone NE entrance yearly traffic volumes	143,237	204,876	158,901
Cody yearly sales tax collections	\$4,845,407*	\$8,252,881	\$10,511,393
Cody Summer Rodeo total attendance	66,173	59,860	74,668
* The sales tax rate for Cody was raised in 1994 from three percent to four percent. To provide an accurate comparison of sales tax collections for the years shown, the 1992 sales tax collection would be \$6,472,542 at a four percent rate.			

The numbers show that the Yellowstone East Entrance traffic volumes decreased substantially during construction activities, but have started to increase as the construction is nearing completion. However, the Chief Joseph Scenic Byway, which serves as an alternative entrance to the park, saw an increase in numbers during the construction. (Note: the NE Entrance adds approximately one hour to the trip for people going through the park – two and a half vs. three and a half hours.)

Actual impacts to the businesses of Cody during and after construction are difficult to quantify because of other impacts that might have an effect on the economy as well. Tax collections for the same periods show that the numbers increased throughout the entire period. These increases might also be attributed to the following factors: an increase in the sales tax rate for Cody in 1994 from three to four percent (this would translate into \$6,472,542 for 1992 – still a substantial increase); the opening of a Wal-Mart (1994) and other retail stores in Cody; and overall growth in the town, including factors such as an increase in the amount of rooms at lodging facilities in town from 1,250 to 1,500 during this time period.

Attendance for the local rodeo that is held every night during the summer is shown here for comparison. The numbers show that business slowed during the main construction period, but have increased significantly as the construction activities are slowing down. However, it is not certain that road construction was a factor in reduced rodeo attendance.

The Chamber of Commerce reports that some local businesses complained of decreased sales during construction activities; but again, this could be due to both the increase in the number of retail businesses in Cody and construction activities.

### **Buena Vista, Colorado**

County Road 306 (CR 306) runs primarily east-west, starting in Buena Vista, Colorado over Cottonwood Pass and ending in Almont as CR 742. Information concerning the construction activities on this road and impacts to Buena Vista was obtained from staff at the Buena Vista

Chamber of Commerce. The Public Works Director for the Town of Buena Vista also provided information about local businesses during and after construction activities.

The road, formerly a dirt road, was reconstructed and paved only on the Buena Vista side of Cottonwood Pass, as this section is under the jurisdiction of Chaffee County. Gunnison County opted not to pave the road that falls within their jurisdiction because of environmental and other concerns that would occur with reconstructing the roadway. Road improvements were made to address the increasing traffic volumes on the pass, causing safety concerns. Traffic volumes had reached 5,000 to 6,000 cars per day on peak weekends such as the 4th of July. Dust from traffic reached unacceptable levels as well.

The construction took place over a two-year period and ended in the early 1990s. The work was done in two stages during the off-season (spring and fall), which made it easier on local communities and travelers. Because of the off-season work, road closures were not necessary.

Some similarities of the CR 306 work to the Guanella Pass potential improvements include seasonal winter closures, recreation opportunities on and around the road corridor, and the sharing of the road by two counties.

The Buena Vista Chamber of Commerce feels that the construction did not have a significant economic impact on local businesses because the work was completed in the off-season. After construction, services such as scenic tours on the improved road have become more popular. Traffic through Buena Vista and on the roadway has also increased as a result.

The Chamber reported that economic impacts, shown by sales tax information from that time, might not be entirely due to the construction activities. The impacts of construction alone are difficult to measure because a major employer of the town shut down at the time. The town was going through a recession and was suffering economic hardship unrelated to the construction project.

The Town of Buena Vista also feels that businesses did not experience significant impacts from the construction because of the off-season work; in addition, there were no road closures during construction, which lessened impacts. Many businesses were in favor of the road paving, although traffic volumes were projected to increase by three times over existing volumes. Traffic volumes have increased over the roadway since the construction, and the economy has improved with the increase of visitors to the town.

## **Conclusions**

The previous three examples indicate that revenue may decrease in nearby towns during periods of construction activity. However, this decrease is often not as dramatic as anticipated and economies can return to their original levels in a short period of time following construction. Careful planning of construction activities can minimize the economic impacts on a community.

## **6i. Reducing Construction Impacts**

Several opportunities exist to reduce impacts to Clear Creek County, Park County, and the Town of Georgetown.

- Material sources and/or asphalt batch plants will be located along Guanella Pass Road in both Clear Creek County and Park County. Potential locations include Duck Lake and the Geneva Basin Ski Area in Park County. Use of these sites will reduce the amount of hauling on the lower portions of the road in Park County and through the Town of Georgetown.
- Using smaller hauling trucks (10 wheels versus 18 wheels) would likely reduce the overall amount of truck-related impacts through Georgetown (noise and vibration), but would increase the amount of truck trips by about 25 percent. Therefore, this is not considered desirable.
- Construction of the 7<sup>th</sup> Street bridge in Georgetown and the relocation of Brownell/Argentine Street will allow construction traffic to avoid narrow roads and sensitive areas of town while improving everyday traffic flow according to the Town's requests.
- Local residents and businesses will be coordinated with in developing the construction and traffic control schedule to minimize construction impacts. In addition, the construction schedule will be publicized in the media.
- A public information plan will be developed that involves notification of construction schedules and activities on a weekly basis. This information will be available through the media, a 1-800 hotline number, and the project website.
- All roads in Georgetown that are used as a haul route by construction vehicles or equipment will be repaired, restored, or resurfaced. In addition, a permanent new bridge will be built at 7<sup>th</sup> Street connecting Argentine/Brownell and Rose Streets to reduce haul route impacts. The section of Argentine/Brownell Street that will be used extensively as a haul route will be moved one road width to the west and reconstructed as requested by the Town of Georgetown. These actions are in compliance with *The Town of Georgetown Comprehensive Plan* (2000).
- The drainage of Guanella Pass Road near Georgetown will be improved if the Georgetown segments are included in the Preferred Alternative; specifically, the area between the third and fourth switchbacks above Georgetown and along Rose Street between 2<sup>nd</sup> Street and 5<sup>th</sup> Street. Drainage currently comes down the switchbacks into town and flooding sometimes occurs.

A more comprehensive discussion of mitigation measures for construction impacts are listed in **Chapter IV.I: Construction**.

## **C. OTHER RESOURCES**

### **1. Air Quality**

#### *Affected Environment*

Existing air quality conditions in the project area are within the limits set by the federal government. The project area is not located within an EPA-designated non-attainment area. The nearby Mt. Evans Wilderness is designated a Class II area by the Clean Air Act. Vehicle emissions from traffic on Guanella Pass Road are well below emission standards for this land classification and do not pose a threat to wildlife populations, vegetation, or human populations



along the road corridor. The proposed project is in the Colorado State Transportation Improvement Program. However, dust along the road corridor is a problem. The gravel road surface has been worn away, exposing the subgrade. Vehicle traffic on the worn roadbed produces dust in the air. This dust diminishes the scenic vistas in the area and is a hindrance to the enjoyment of those driving the road for recreation.

### ***Environmental Consequences***

With the exception of increases in dust, increases in traffic resulting from roadway improvements do not have a major impact on air quality along the road corridor. The expected vehicle emissions of hydrocarbons, nitrogen oxides, sulfur dioxide, carbon monoxide, and suspended particulate matter are within the National Ambient Air Quality Standards and do not create health hazards to the public, wildlife, or vegetation in the project corridor.

#### Alternative 1

Under Alternative 1, the dust problem will continue to worsen as the traffic volumes increase. The road will not see any improvements to the surface, therefore the dust problems will continue to impact the air quality.

#### Alternative 2

Alternative 2 reconstructs the roadway with a paved surface that eliminates the dust problem. All of the current gravel surfaces are eliminated and paved over with asphalt. There will be no dust generation, which should improve the air quality surrounding the Guanella Pass Road area. Visitors will be able to enjoy their activities without being affected by air quality issues.

#### Alternative 3

Alternative 3 reconstructs the roadway with a paved surface in those areas that are currently paved and a gravel surface in those areas that are currently gravel. Although the new road surface initially reduces the amount of dust in the air, it is likely that funding for maintenance activities (dust control measures, new gravel, etc.) will not keep pace with traffic increases. This results in the degradation of the gravel surface, leading to a dust problem similar to that which currently exists but magnified by the expected increase in traffic volume.

#### Alternatives 4 and 5

Alternative 4 and Alternative 5 result in a paved surface over 85 percent of the road. The remaining 15 percent of the road (5.7 kilometers [3.5 miles]) has a gravel surface with dust problems that increase as traffic volumes increase, but the overall net effect will be a decrease in dust due to the increase in paving areas.

#### Alternative 6

Alternative 6 consists of 56 percent paved/chip seal surface, 30 percent macadam surface, and the remaining 14 percent is a gravel surface. The additional hardened surface will help reduce dust. As noted before, the dust suppression of the alternative surface types is a beneficial impact to the air quality in the corridor. If the gravel with no stabilization option is chosen, dust would be reduced but over time would again become a problem.

## 2. Noise

### *Affected Environment*

A traffic noise analysis was conducted for the Guanella Pass Road improvement project in accordance with 23 CFR 772. The existing condition, Alternative 1 (No Action), and all build alternatives (Alternatives 2-6) were analyzed in the *Construction Noise Report for the Guanella Pass Road Improvement Project* (Hankard Environmental, November, 2001).

Noise abatement criteria have been established by the FHWA to define noise limits at which abatement measures must be considered. These limits vary by land-use type (Table III-29). The limit for recreational and residential land uses (Activity Category B) is 67 dBA. The limit for lands for which serenity and quiet are of extraordinary importance (wilderness area, outdoor theater, etc.) is 57 dBA (Activity Category A). The activity categories along Guanella Pass Road are primarily residential and recreational facilities.

Noise analyses were conducted along eight separate sections of Guanella Pass Road because traffic volumes vary along the length of the road. The sections are shown in Table III-30. Each noise analysis evaluates the noise energy produced by traffic based on traffic volume, type of vehicle, speed of vehicles using the roadway, gradient, etc. The existing and future noise levels were determined using the FHWA noise model FHWA-RD-77-108. Noise levels were calculated at 3-meter (10-foot) increments between 12 meters (40 feet) and 60 meters (200 feet) from the centerline of the roadway. The traffic noise was modeled without accounting for the effects of barriers, foliage, or elevation (worst case scenario). Existing noise levels for each of these locations are summarized in Table III-30, and the data is represented graphically in Figures III-24 and III-25.

The current noise levels on Guanella Pass Road are between 53 dBA and 58 dBA at 12 meters (40 feet) from the centerline of the road. The current noise levels at 60 meters (200 feet) are between 43 dBA and 47 dBA. The Mount Evans Wilderness Area boundary is approximately 90 meters (300 feet) from the road at the summit. The existing noise level at the wilderness boundary is less than 43 dBA.

**Table III-29**  
***FHWA Noise Abatement Criteria***

<b>Activity Category</b>	<b>Acceptable Levels (dB(A))</b>	<b>Description of Activity Category</b>
A	57 (exterior)	Lands on which serenity and quiet are of extraordinary importance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose
B	67 (exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals
C	72 (exterior)	Developed lands, properties, or activities not included in Categories A or B above
D	Not Applicable	Undeveloped lands
E	52 (interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums

*Source: Federal Register, Volume 47, No. 131, July 8, 1992, Rules and Regulations*

## *Environmental Consequences*

This noise analysis addressed Alternative 1 (No Action) and each of the build alternatives. For each of the road sections analyzed, the predicted 2025 noise levels for Alternative 6 most closely match the Alternative 1 noise simulations. Indeed, for several sections of Guanella Pass the Alternative 6 predicted noise values are nearly identical to the Alternative 1 values.

Along Loop Drive and Spring Street in Georgetown, noise levels are controlled by traffic on Interstate 70 and not Guanella Pass Road. No substantial benefit is derived from mitigation of local traffic noise.

Predicted future noise levels are shown in Table III-30 and in Figure III-24 and Figure III-25. The noise abatement criteria in Table III-29 contain levels at which noise reduction measures must be considered. In addition, state transportation agencies typically consider a 10 or 15 dBA increase in noise level to be substantial, and therefore would also warrant consideration of mitigation measures.

The noise analysis conducted for each of the eight sections of Guanella Pass Road concludes that predicted noise levels do not approach or exceed 67 dBA in any section under any alternative. No alternative, including Alternative 1, is predicted to exceed 57 dBA at a distance of 20 meters (65 feet) from the centerline of the road in the year 2025. None of the predicted 2025 noise levels increase by 10 dBA or more for any alternative anywhere in the study area. This analysis finds that none of the alternatives produce substantial noise impacts.

### **3. Hazardous Materials**

#### *Affected Environment*

An initial site assessment (ISA) was conducted along the Guanella Pass Road corridor in accordance with the American Society for Testing and Materials (ASTM) Standard E1527-94. The assessment included an area approximately 60 meters (200 feet) on either side of the road. The purpose of this ISA was to evaluate the potential for contamination of on-site soils and groundwater that may have resulted from the release of hazardous substances or petroleum products during previous or current activities within the area. The evaluation was based on data review, field observations, and personal interviews. Records and reports that were reviewed included historical maps and aerial photographs, professional papers, and other related studies. In addition, government agencies were contacted concerning possible generation, storage, treatment, and disposal of hazardous waste or releases of hazardous substances or petroleum products on or adjacent to the study area. Site visits were conducted to evaluate present site conditions and adjacent site usage. Interviews of persons with knowledge of historical activity on or near the road were conducted.

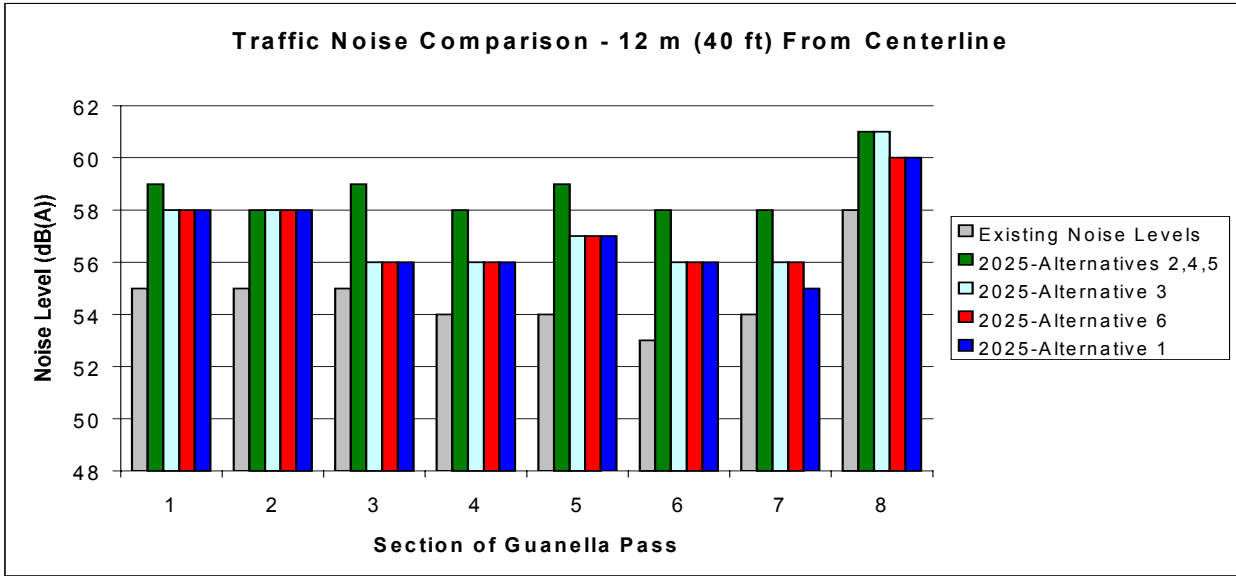
Agencies contacted during the preparation of the ISA included county environmental health departments, CDPHE, FS, EPA, and other entities with knowledge of the project area. Results of the contacts with these agencies are incorporated into the Environmental Consequences discussion below.

**Table III-30**  
**Existing and Projected Future Noise Levels Along Guanella Pass Road**

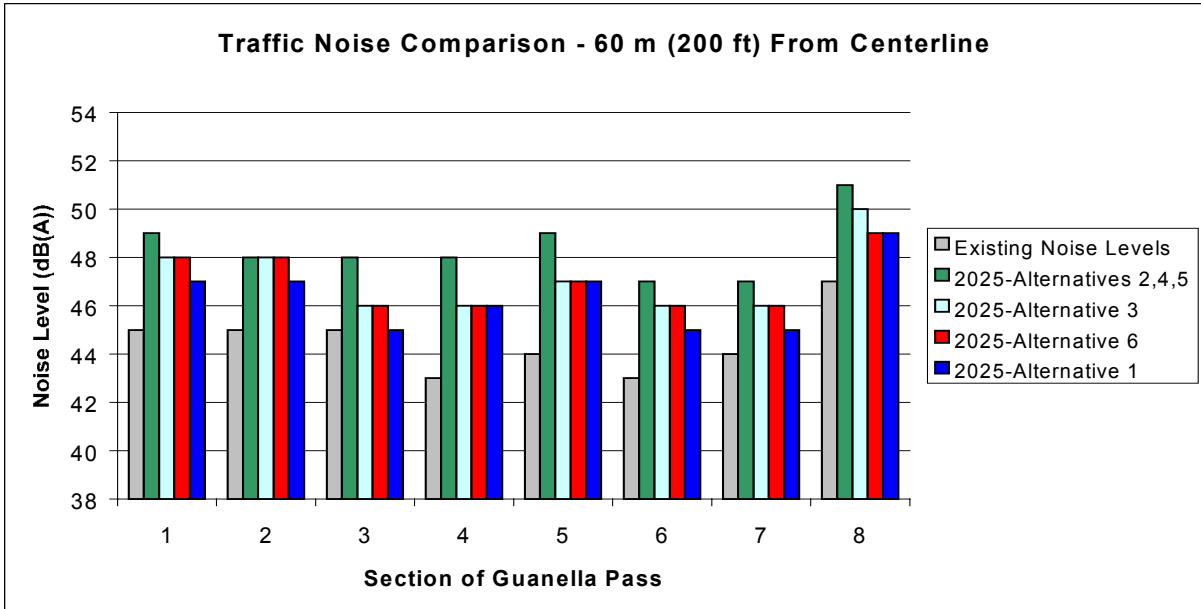
Section	Approx. Station No.	Existing 12 m (40 ft)	Existing 60m (200 ft)	2025 Alt 1 12 m (40 ft)	2025 Alt 1 60 m (200 ft)	2025 Alts 2,4,5* 12 m (40 ft)	2025 Alts 2,4,5* 60 m (200 ft)	2025 Alt 3 12 m (40 ft)	2025 Alt 3 60 m (200 ft)	2025 Alt 6 12 m (40 ft)	2025 Alt 6 60 m (200 ft)
1	1+000	55	45	58	47	59	49	58	48	58	48
2	9+000	55	45	58	47	58	48	58	48	58	48
3	19+000	55	45	56	45	59	48	56	46	56	46
4	24+000	54	43	56	46	58	48	56	46	56	46
5	25+000	54	44	57	47	59	49	57	47	57	47
6	28+000	53	43	56	45	58	47	56	46	56	46
7	32+000	54	44	55	45	58	47	56	46	56	46
8	36+000	58	47	60	49	61	51	61	50	60	49

*\*Worst case (80 percent traffic increase)*

*Source: Guanella Pass Road Construction Noise Report, November, 2001*



**Figure III-24**  
*Comparison of Traffic Noise at 12 meters (40 feet) from Centerline*



**Figure III-25**  
*Comparison of Traffic Noise at 60 meters (200 feet) from Centerline*

In September 2001, an additional field survey was conducted as part of a Phase II investigation to map the geology and surface materials along the existing road and delineate mine dumps and potentially mineralized bedrock (*Colorado Forest Highway 80, Guanella Pass Road Phase II Investigation*). This study reconfirmed the locations of the mine dumps identified in the ISA and also identified other features in the vicinity of the road. Any additional studies or sampling that may be required will be determined during final design in coordination with the appropriate agencies (CDPHE, EPA).

During the ISA research and site visits, thirteen areas with evidence of potential spills, use of hazardous materials or petroleum products, or evidence of mining, were identified within or near the Guanella Pass Road corridor. During the Phase II investigation two other features were identified and a search was performed to identify water seeps at mine dumps and fault/fracture zones. The areas of potential hazardous materials concern within the study area are listed in Table III-31. Of these areas, four were determined to have no potential impact on the road because of their locations. All 13 site locations, identified in the ISA, and other features identified during the Phase II investigation are discussed in the following sections.

#### **Site Location 1 – Grant Country Store (Station 1+000)**

Former leaking underground storage tanks (LUSTs) were located near the Grant Country Store. The store is approximately 100 meters (325 feet) southeast of Guanella Pass Road on U.S. Highway 285. The tanks were removed, and the site is designated as closed. The tanks appeared to have been located east and downgradient from Geneva Creek and Guanella Pass Road, and north and upgradient from the North Fork of the South Platte River. The facility no longer sells or dispenses gasoline. No fuel islands were observed. Road improvements are not expected to impact this site.

#### **Site Location 2 – Platte River Inn (Station 1+000)**

Motor oil-stained soil was observed outside a garage on the east side of the Platte River Inn. The stained soil is approximately 80 meters (260 feet) east of Guanella Pass Road on U.S. Highway 285 and appears to be downgradient from Geneva Creek and Guanella Pass Road. Road improvements will not impact this area.

#### **Site Location 3 – Storage Yard (Station 1+000)**

A storage yard is located west of the road and adjacent to Geneva Creek at Grant. Motor oil-stained soils were observed at this location. Access to the property for closer inspection was not permitted.

The petroleum-stained soils are not expected to be encountered by road improvements made to the existing roadway. However, because of its proximity to the road, a spill or release at the storage yard has the potential to impact the subsurface in the road corridor.

**Table III-31**

**Potential Hazardous Material Sites within the Guanella Pass Road Study Area**

Site	Name/Description	Location (station)	Potential Impacts
1	Grant Country Store	1+000	No potential impacts expected for Alternatives 1-6.
2	Platte River Inn	1+000	No potential impacts expected for Alternatives 1-6.
3	Storage Yard	1+000	No potential impacts expected for Alternatives 1, 4, 5, and 6. Possible involvement due to excavation in possible spill area for Alternatives 2 and 3.
4	Geneva Park Pasture	10+800	No potential impacts expected for Alternatives 1-6.
5	Abandoned Geneva Basin Ski Area	18+500	No potential impacts expected for Alternatives 1-6. No potential impacts expected if area is used for wetland mitigation.
6	Cabin Creek Hydroelectric Plant	30+600	In compliance with the Resource Conservation and Recovery Act. No potential impacts expected for the Plant itself for Alternatives 1-6.
7	Kirtley Mine	35+200 – 35+400	Disturbance to mine tailings and mine dump waste adjacent to the roadway is expected for Alternatives 2 and 3 due to full reconstruction. No potential impacts expected for Alternatives 1 and 4 due to no action. Minor direct impacts expected for Alternatives 5 and 6 due to rehabilitation.
8	Mine Dump	36+100	Disturbance to mine tailings and mine dump waste adjacent to the roadway is expected for Alternatives 2 and 3 due to full reconstruction. No potential impacts expected for Alternatives 1 and 4 due to no action. Minor direct impacts expected for Alternatives 5 and 6 due to rehabilitation.
9	Mine Dump	36+300	Disturbance to mine tailings and mine dump waste adjacent to the roadway is expected for Alternatives 2 and 3 due to full reconstruction. No potential impacts expected for Alternatives 1 and 4 due to no action. Minor direct impacts expected for Alternatives 5 and 6 due to rehabilitation.
10	Mine Dump with Buildings	38+700	No potential impacts expected for Alternatives 1-6.
11	Mine Dump	38+800	No potential impacts expected for Alternatives 1-6.
12	Mine Dump	39+500	Disturbance to mine tailings and mine dump waste adjacent to the roadway is expected for Alternatives 2-6. No potential impacts expected for Alternative 1.
13	Former Railroad Grade and Smelter	39+800	Disturbance to mine tailings and mine dump waste adjacent to the roadway is expected for Alternatives 2-6 if the temporary construction bypass bridge is constructed. No potential impacts expected for Alternative 1.
Other (from Phase II)	Equator Tunnel	35+510	Disturbance to tunnel may occur for Alternatives 2 and 3. No potential impacts expected for Alternatives 1, 4, 5, and 6.
Other (from Phase II)	Silverdale/Ocean Wave Tunnel	35+830	Disturbance to tunnel may occur for Alternatives 2 and 3. No potential impacts expected for Alternatives 1, 4, 5, and 6.

*Source: Initial Site Assessment Guanella Pass Road Clear Creek and Park Counties, Colorado, February 18, 1997.*

The work in this area, under Alternatives 4, 5, or 6, will be either rehabilitation or no action and is not expected to require excavation of material. If road excavation is required in this area, as it may be under Alternatives 2 and 3, then samples of the stained soils at the storage yard should be obtained and analyzed. If the surface stains extend deeper than several inches into the soil, a subsurface study should be conducted to evaluate the extent of the impact.

#### **Site Location 4 – Geneva Park Pasture (Station 10+800)**

Two small areas of disturbed soil were observed in the field 100 meters (325 feet) west of the road and beyond the designated study area. The field appears to be used as pasture. No evidence of hazardous materials or petroleum products was observed in the visible portions of the disturbed areas; however, access to the property was not permitted. The disturbance may be related to historic peat mining. Because it is downslope and far from Guanella Pass Road, this area is not expected to impact the road corridor.

#### **Site Location 5 – Abandoned Geneva Basin Ski Area (Station 18+500)**

This is the site of the former Geneva Basin Ski Area (see Figure III-26). The main ski lodge was destroyed in a controlled fire initiated by the FS in 1994. Debris from the fire was observed within the foundation of the former lodge. An above-ground storage tank (AST) was observed approximately 200 meters (650 feet) northwest of the demolished lodge. It is unknown if the AST contained fuel. The AST was located close to the Duck Creek Realignment which was dropped from further consideration. A location near the ski area is, however, being evaluated as a potential materials source location and wetland mitigation site. All of the above-ground remnants of the ski area have been removed except for some of the building foundations.

Contacts with an FS enforcement officer revealed that, in 1980, a LUST was removed from the Geneva Basin Ski Area following the observation of petroleum products in nearby Duck Creek. The impacted soil was removed and backfilled with clean fill material “to the extent that the ski area’s damage deposit would allow.” The FS could not locate a closure report for this site.

Possible spills of fuel from the AST may have impacted the subsurface and groundwater of the study area. However, current information on the location of the AST (200 meters (650 feet) northwest of the demolished lodge) places the former AST west of Duck Creek in an area that will not be disturbed by the potential materials source location and wetland mitigation site.

Although the extent of the cleanup activities of the LUST could not be determined, the former location has been identified at approximately 75 meters (246 feet) northwest of the demolished lodge. The former LUST is down gradient of the area proposed for the potential materials source location and wetland mitigation site and will not be disturbed during construction of the wetland.

It is not known if the FS took samples for asbestos and lead-based paint before burning the lodge. However, the former lodge is down gradient of the area proposed for the potential materials source location and wetland mitigation site and will not be disturbed during use as a materials source or by construction of the wetland.

#### **Site Location 6 – Cabin Creek Hydroelectric Plant (Station 30+600)**

The Cabin Creek Hydroelectric Plant, owned and operated by Xcel Energy (formerly Public Service Company of Colorado), is east of and immediately adjacent to Guanella Pass Road.



Access to the property is limited to the gravel road around the reservoir. The interior of the buildings were not observed during the on-site evaluation. Orange-stained sediments were observed in a stream north of the dam. Xcel Energy confirmed that, as of June 5, 2002, there have not been any transformer fires or leaks along the alignment. If any contaminated soil is found during utility relocation or construction, then the FHWA will coordinate with Xcel Energy for them to conduct any necessary clean-up as part of their utility relocations.

#### **Site Location 7 – Kirtley Mine (Station 35+200 to 35+400)**

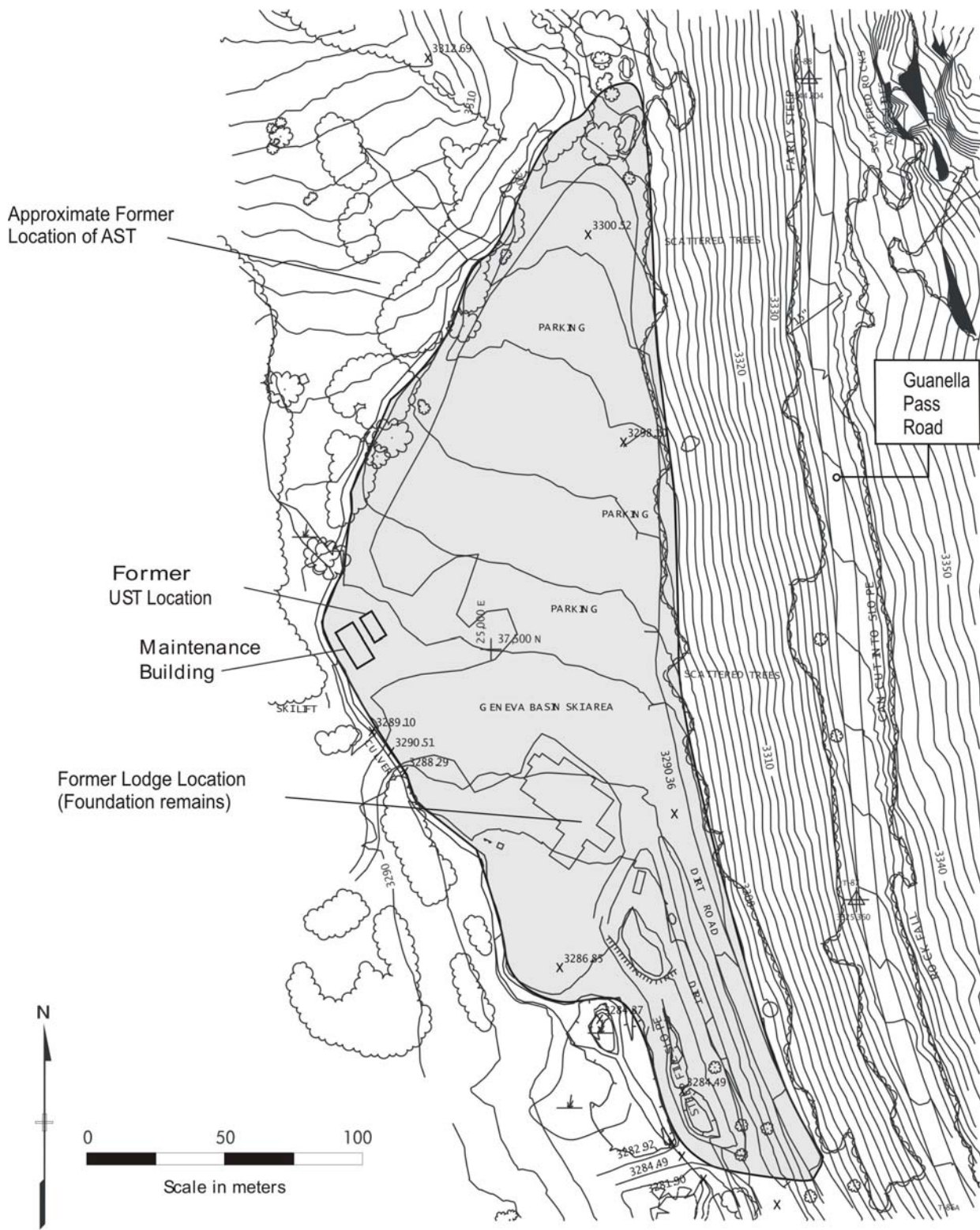
This is the site of the Kirtley Mine and Marshall Tunnel. The tunnel diverts Leavenworth Creek away from the mine dump area. Abandoned machinery processed ore (tailings) were observed west of the road. Leavenworth Creek is currently experiencing water-quality problems associated with mine wastes. The road crosses the mine waste dump (material excavated from the mine). A mine waste dump, apparently from the Kirtley Mine, was also observed in the South Clear Creek valley east of the road at this location. Proposed roadway improvements through this area under Alternatives 2, 3, 5, and 6 are expected to disturb the mine waste adjacent to the existing road. These areas may contain elevated metal concentrations in the subsurface of the study area. It may be necessary to sample the mine tailings to determine what special precautions, if any, may need to be implemented during any mine waste disturbance. See further discussion below.

#### **Site Locations 8 through 12 – Mine Dumps Between Station 36+100 and Station 39+500**

Mine waste was observed adjacent to one or both sides of the road at five locations between station 36+100 and station 39+500. An abandoned wood building was also observed south of the road at Site Location 12. No evidence of hazardous wastes or petroleum products was observed at these locations. Proposed roadway improvements through these areas may disturb the mine waste adjacent to the existing road. These areas may contain elevated metal concentrations and exhibit corrosive characteristics that may have impacted the subsurface of the study area. Mine dump materials excavated under any of the build alternatives would be reused as fill, and slopes exposed by the work would be covered with soil and revegetated, if practicable (i.e., slopes less than 2:1 grade). This onsite management approach is consistent with other projects performed by CDOT in mineralized areas in Colorado, including the North Fork of Clear Creek and locations where CDOT has used soils with elevated metals concentrations in highway construction. It may be necessary to sample the mine tailings to determine what special precautions, if any, need to be implemented during disturbance of any mine tailings. See further discussion below, under **Environmental Consequences**.

#### **Site Location 13 – Former Railroad Grade and Farwell Smelter (Station 39+800)**

A former railroad grade intersects the road at approximately station 39+800. Processed ore tailings and partial foundations from the historic Farwell Reductions Works, a smelter, are approximately 100 meters (325 feet) northwest of this point and directly north of the railroad grade. The smelter is on the south bank of Clear Creek. The Georgetown Bypass Realignment, which was dropped from further consideration, passes through this area. Also, the proposed temporary construction bypass and bridge passes through this area. It may be necessary to sample the mine tailings and railroad grade to determine what special precautions, if any, may need to be implemented during disturbance of these areas.



**Figure III-26**  
**Site Location 5: Abandoned Geneva Basin Ski Area**

The subsurface in this area has the potential to have been affected by spills of diesel, motor oil and greases, wood-preserving products, and various unreported hazardous materials spilled from railcars. It also has the potential to contain elevated metal concentrations and may exhibit corrosive characteristics caused by the former smelter operations.

### **Other Sites – Seeps, Fault Structures or Fracture Zones**

During the Phase II Investigation, conducted in September 2001, the following was performed: geology and surface materials along the existing road were mapped, mine dumps and potentially mineralized bedrock were delineated, locations of mine dumps previously identified from the ISA were reconfirmed, and fault or fracture zones in rock outcrops were surveyed for seeps. Research was also conducted on regulatory requirements for proper handling and disposal practices for mine dump materials. The report on these activities (*Colorado Forest Highway 80, Guanella Pass Road Phase II Investigation*) contains more detailed information on the field surveys conducted and management analysis for dealing with the mine dump materials. Following are other features identified from this effort:

- Equator Tunnel, located east of station 35+510 at the toe of the existing fill slope. A water seep emanates from the tunnel and migrates toward Clear Creek.
- Silverdale/Ocean Wave Tunnel, located on the east side of the road between stations 35+720 and 35+830. The actual portal of the tunnel could not be located and no water seeps were observed at the time of the fieldwork.
- Water seeps from mine dumps, fault or fracture zones in the vicinity of the project have a potential to contain elevated metals concentrations, which is a concern of the EPA and the CDPHE Water Quality Control Division (WQCD). No water seeps were observed at the time of the fieldwork at any of the mine dumps discussed above (Site Locations 7 through 12). No water seeps were observed at the time of the fieldwork at any of the fault or fracture zones in rock outcrops, located during the field review. It is possible that other seeps may be encountered during months that characteristically have higher runoff. Based on regulatory review and discussions with the WQCD and the Colorado Watershed Coordinator, any environmental concerns associated with seeps encountered because of construction will be addressed in the NPDES permit. This is discussed further below.

### ***Environmental Consequences***

No areas of potentially mineralized bedrock were identified that any of the build alternatives would affect. No mine drainage or seeps were identified that any of the build alternatives would affect. However, since seeps may be encountered or exposed during construction, any potential concerns from seeps will be addressed in the NPDES permit. Under a storm water discharge permit that would be obtained for the work, there will be requirements for reducing pollutants in storm water discharges from the construction site. The permit would include a Storm Water Management Plan (SWMP) that identifies BMPs, which, when implemented during construction, will meet the terms and conditions of the permit. The general construction permit includes basic (narrative) standards applicable to surface waters of the state, in accordance with *The Basic Standards of Methodologies for Surface Water* (5 CCR 1002-31). 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 diversion, etc.). The SWMP will also include a description of the measures used to achieve final stabilization and measures to

control pollutants in storm water discharges that might occur after construction operations have been completed.

Options for management of mine dump materials were reviewed during the Phase II investigation. Three management options were identified and evaluated as follows: 1) disposal of excavated mine dump waste in a commercial solid waste landfill; 2) management of excavated mine dump waste under the state's Voluntary Cleanup Program; and 3) disposal of excavated mine dump material in fill areas along the road or in a designated fill area near the road (onsite management).

Based on that review, 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. Based on the CDOT/CDPHE model 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. This onsite management approach is consistent with other projects performed by CDOT in mineralized areas of Colorado, including the North Fork of Clear Creek and locations where CDOT has used soils with elevated metals concentrations in highway construction.

In the area along the former railroad grade and near the Farwell Smelter, additional study (possibly subsurface sampling) may be required if the temporary construction bypass bridge is implemented. More detailed design of the temporary construction bypass bridge and detour would be required to determine the ground disturbance caused by this temporary bypass route and whether additional study is required.

No buildings are anticipated to be demolished by any of the build alternatives, therefore none of the alternatives will have any involvement with asbestos or lead-based paint. Xcel Energy and Intermountain Rural Electric Association will be contacted to determine the polychlorinated biphenyls (PCB) content of any transformers that may be affected by construction activities.

Further evaluation of potential hazardous material sites will continue up to the time of property acquisition. The selected alternative will avoid potentially contaminated sites whenever practical. Where avoidance is not practical, additional site investigation will be conducted. Any necessary cleanup plans will be coordinated with the appropriate agencies and landowners.

#### Alternative 1 – No Action

Since there are no construction activities under Alternative 1, there will be no impact to any hazardous material sites.

#### Alternative 2

The full reconstruction proposed under this alternative may disturb potentially hazardous materials at locations 3, 7-9, 12, 13, the Equator Tunnel, and the Silverdale/Ocean Wave Tunnel. Additional studies may be required at these locations for this alternative. No impacts are expected at sites 1, 2, 4-6, 10 and 11.

### Alternative 3

The full reconstruction proposed under this alternative may disturb potentially hazardous materials at locations 3, 7-9, 12, 13, the Equator Tunnel, and the Silverdale/Ocean Wave Tunnel. Additional studies may be required at these locations for this alternative. No impacts are expected at sites 1, 2, 4-6, 10, and 11.

### Alternative 4

This alternative may disturb potentially hazardous materials at locations 12 and 13 because of full reconstruction in those areas. Additional studies may be required at these locations for this alternative. No impacts are expected at sites 1-11, the Equator Tunnel, and the Silverdale/Ocean Wave Tunnel.

### Alternative 5

This alternative may disturb potentially hazardous materials at location 7-9, 12, and 13 because of full reconstruction in those areas. No impacts are expected at site 1-6, the Equator Tunnel, and the Silverdale/Ocean Wave Tunnel.

### Alternative 6

This alternative may disturb potentially hazardous materials at location 7-9, 12, and 13 because of light reconstruction in those areas. No impacts are expected at site 1-6, 10, 11, the Equator Tunnel, and the Silverdale/Ocean Wave Tunnel.

More detailed analyses of this topic are provided in the *Initial Site Assessment Guanella Pass Road Clear Creek and Park Counties* (Kumar & Associates, Inc., February 18, 1997); and *Colorado Forest Highway 80, Guanella Pass Road Phase II Investigation* (Foster Wheeler Environmental Corporation, December, 2001).

## **4. Section 4(f) Resources**

The intent of the Section 4(f) Statute, 49 U.S.C., Section 303, and the policy of the FHWA, are to avoid historic sites and publicly owned recreational areas, public parks, and wildlife and waterfowl refuges. If avoidance is not possible, then a Section 4(f) evaluation must demonstrate that: (1) there is no feasible and prudent alternative to the use of Section 4(f) resources, and (2) the project includes all possible planning to minimize harm to any Section 4(f) resource.

### **HISTORIC SITES**

There are several historic sites in the project area, which are discussed in **Chapter III.B.lg: Cultural Resources**. Of these sites, some of the build alternatives would have the potential to affect the GSPNHL, Colorado Central Railroad Grade, and Mining Tailing Dumps. Below is a general description of these sites.

According to the FHWA's Section 4(f) Policy Paper, ROW takes within a historic district that do not affect any elements that contribute to the historic designation do not constitute a use of the district. A constructive use of land can occur when a transportation project does not incorporate

land from a Section 4(f) resource, but the project's proximity impacts are so severe that the protected activities, features, or attributes that qualify a resource for protection under Section 4(f) are substantially impaired.

### **Georgetown-Silver Plume National Historic Landmark District (Site # 5CC3)**

#### ***Affected Environment***

This 1,331 hectare (3,288 acre) historic district includes the towns of Georgetown and Silver Plume, as well as the valley between the two communities (Figure I-2). The communities in the district grew and flourished first as a mining region and later as a recreational center for the people of Denver. Guanella Pass Road begins in the historic district at Rose Street in Georgetown, extends southward along Leavenworth Mountain through a series of four switchbacks, and exits the district at the Georgetown Reservoir. The length of the road within the district is 3.0 kilometers (1.9 miles). Existing cuts associated with the road are visible from many vantage points throughout the district.

#### ***Environmental Consequences***

Alternatives 2, 3, 5, and 6 use portions of three contributing elements, all mine tailing sites. Alternative 4 would use a portion of one of these sites. The impacts to these sites are addressed below under **Mine Tailing Dumps**.

New rock cuts and retaining walls along the switchback portion of the road, especially the 4th switchback above Georgetown, are visible from many vantage points in the historic district. Because Leavenworth Mountain is the backdrop to the historic setting of the 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. Proposed improvements included in all build alternatives would entail tree removal, cuts and fills, and retaining walls within the existing roadway construction limits. The FHWA has determined that the proposed project will be an adverse effect to the GSPNHLD under all build alternatives. Alternative 6 would have the least amount of impact to Leavenworth Mountain due to reduced roadway width, curve radii, and retaining wall height. This would also create the least amount of visual impact, and therefore the least amount of adverse impact to the GSPNHLD.

Construction traffic may be routed through Georgetown. This traffic would not produce vibrations sufficient to damage historical structures along the haul route, and consequently would not create a constructive use of the GSPNHLD.

The impacts listed above are discussed in more detail in **Chapter III.B.1g: Cultural Resources**; **Chapter III.B.3: Visual Quality**; and **Chapter III.B.6f: Vibration**.

## Avoidance Alternatives

Guanella Pass Road begins in the GSPNHLD, and passes through it for 3.0 kilometers (1.9 miles). Because of its size, avoiding the district entirely requires major reconstruction creating new connections to existing roads and an extremely long detour through environmentally sensitive areas. The road would no longer serve its intended purpose as a rural local road for forest visitors and would no longer meet the purpose and need for the project. This alternative is not prudent or feasible.

## Measures to Minimize Harm

The typical section for Alternative 6 is narrower than for the other build alternatives. This minimizes the impacts to Section 4(f) resources adjacent to the roadway. Retaining walls will be used to reduce the size of the rock cuts through the switchbacks above Georgetown. The use of rock stains to darken the light color of newly cut rock and the use of dark material for the retaining walls reduces visual impacts. Rock faces will be blasted in such a way that the resulting exposed rock will have an irregular, natural looking appearance. 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.

## **Colorado Central Railroad Grade (Site # 5CC3.1/SCC9)**

### *Affected Environment*

The portion of this linear feature which falls within the Guanella Pass Road study corridor was originally part of the narrow-gauge rail-bed linking Georgetown to Silver Plume. The railroad grade intersects Guanella Pass Road at the second switchback just above and to the south of Georgetown.

### *Environmental Consequences*

Consideration was given to constructing a temporary construction bypass bridge, which would use approximately 160 meters (525 feet) of the railroad grade, adjacent to the second switchback of the roadway. However, there is a feasible and prudent alternative to this use by constructing a permanent 7<sup>th</sup> Street bridge in Georgetown and route traffic on the bridge and existing streets. (See **Chapter III.B.6c: Hauling** for more information on this option.) Therefore, the temporary construction bypass bridge cannot be implemented as part of this project.

## **Mine Tailing Dumps (Site # 5CC988-993)**

### *Affected Environment*

These six sites consist of tailing piles and associated features, and are contributing elements to the historic landscape of the GSPNHLP.

### *Environmental Consequences*

Three of the subject mine tailing dumps (#SCC988-990) would be directly impacted by Alternatives 2, 3, 5, and 6. The remaining three sites (#SCC991-993), located between the third and fourth switchbacks on Leavenworth Mountain, are not affected by the proposed project. Alternatives 5 and 6 would have less impact on sites #SCC988-990 because the proposed

rehabilitation would produce less ground disturbance than the reconstruction proposed under Alternatives 2 and 3.

A switchback of Guanella Pass Road passes through site #SCC988. Alternatives 2 and 3 would adjust the alignment and widen the road through this area, impacting a strip of the site approximately 6 meters (20 feet) wide on one side of the roadway. Alternatives 5 and 6 would rehabilitate the road in this area, impacting a strip approximately 1.5 meters (5 feet) wide.

Guanella Pass Road is adjacent to and partially on top of sites #5CC989-990. Alternatives 2 and 3 would impact a strip approximately 3 meters (10 feet) of site #5CC989 and 6 meters (20 feet) of site #5CC990 on one side of the roadway. Alternatives 5 and 6 would impact a strip approximately 1.2 meters (4 feet) of both these sites.

See Table III-32 for the amount of use of these sites under each alternative.

**Table III-32**  
**Section 4(f) Impacts**  
**hectares (acres)**

Location	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6
Mine Tailing Site #5CC988	0 (0)	0.09 (0.22)	0.09 (0.22)	0 (0)	0.02 (0.06)	0.02 (0.06)
Mine Tailing Site #5CC989	0 (0)	0.01 (0.02)	0.01 (0.02)	0 (0)	0.00 (0.00)*	0.00 (0.00)*
Mine Tailing Site #5CC990	0 (0)	0.01 (0.02)	0.01 (0.02)	0 (0)	0.00 (0.00)*	0.00 (0.00)*
Guanella Pass Campground	0 (0)	0.01 (0.02)	0.01 (0.02)	0.01 (0.02)	0.01 (0.02)	0.01 (0.02)
Whiteside Campground	0 (0)	0.01 (0.02)	0.01 (0.02)	0 (0)	0 (0)	0 (0)
<b>Total</b>	<b>0 (0)</b>	<b>0.13 (0.33)</b>	<b>0.13 (0.33)</b>	<b>0.01 (0.03)</b>	<b>0.03 (0.07)</b>	<b>0.03 (0.07)</b>

\* Impacts in these areas are less than 0.01 hectares

### Avoidance Alternatives

A switchback of Guanella Pass Road passes through site #SCC988 and near site #SCC178 (the Marshall Tunnel). Moving the roadway to avoid impacts to this site would require at least 0.7 kilometer (0.4 mile) of new roadway. This new alignment would create new environmental impacts, including impacts to plants and animals, visual resources, and water resources, in a previously undisturbed area. This alternative is not prudent.

Guanella Pass Road passes between the Georgetown Forebay Dam and Reservoir (itself a historic site) and sites #SCC989 and #SCC990. To avoid all of these sites, the road would need



to be moved to the east side of the reservoir. This would require at least 0.5 kilometer (0.3 mile) of new roadway. This new alignment would create new environmental impacts, including impacts to plants and animals, visual resources, and water resources, in a previously undisturbed area. This alternative is not prudent.

### Measures to Minimize Harm

The typical section for Alternative 6 is narrower than for the other build alternatives. This minimizes the impacts to Section 4(f) resources adjacent to the roadway.

### **RECREATION AREAS**

There are five FS campgrounds, two FS picnic areas, and one cooperatively developed (public and private) picnic area along or near Guanella Pass Road (Figure I-2), as well as numerous trailheads and associated parking areas. Of these sites, the build alternatives potentially affect the following three: Geneva Creek Picnic Area, Whiteside Campground, and Guanella Pass Campground.

#### **Geneva Creek Picnic Area**

The FS has existing plans to close this site by removing the vault toilet and picnic sites in order to rehabilitate the riparian area. Restroom and picnic tables will be provided at Whiteside Campground. Because the FS does not consider this picnic area to be a significant recreation resource and plans to close this picnic area, it is not considered to be a Section 4(f) resource.

#### **Whiteside Campground**

##### *Affected Environment*

Guanella Pass Road currently runs adjacent to and partially within the boundaries of this 1.5 hectare (3.6 acre) campground. There are five campsites within Whiteside Campground. The campground area includes picnic tables, toilet facilities, and a parking area. A footbridge that runs across Geneva Creek connects the camping area to the parking area.

##### *Environmental Consequences*

There is no defined ROW for the existing road at Whiteside Campground. Takes from this facility are defined as any disturbance within the campground boundary that is outside the existing roadbed. Under Alternatives 2 and 3, widening the road through this area takes approximately 0.01 hectare (0.02 acre) of a corner of the campground but does not impact any structures. This encroachment is minor and does not reduce the size of the normal use area. No improvements to the road are constructed in the area of this campground under Alternative 4. Alternative 4 has no impact on this site. Rehabilitation efforts under Alternatives 5 and 6 are within the existing ROW and have no impact on this site.

### Avoidance Alternatives

Alternative 4 does not involve construction in the area of this campground, thereby avoiding all Section 4(f) resources use. Alternatives 5 and 6 involve rehabilitation within existing ROW in this area, thereby avoiding Section 4(f) resources use.

For Alternatives 2 and 3, moving the road to the north avoids direct impacts to the campground. This requires 0.5 kilometer (0.3 mile) of new roadway. This new alignment would create new environmental impacts, including impacts to plants and animals, visual resources, and water resources, in a previously undisturbed area. This alternative is not prudent.

For Alternatives 2 and 3, the campground could also be avoided by moving the road to the south. This requires 1.0 kilometer (0.6 mile) of new road, two crossings of Geneva Creek, a new parking area and impacts riparian areas adjacent to the creek. This new alignment would create new environmental impacts, including impacts to plants and animals, visual resources, and water resources, in a previously undisturbed area. This alternative is not prudent.

### Measures to Minimize Harm

The typical section for Alternative 6 is narrower than for the other build alternatives. This minimizes the impacts to Section 4(f) resources adjacent to the roadway.

## **Guanella Pass Campground**

### *Affected Environment*

Guanella Pass Road currently divides this 3.9 hectare (9.6 acre), eighteen site campground into two parts, with seven campsites on the west side of the road and eleven campsites on the east side of the road. The campground includes picnic tables, tent pads, toilet facilities, and parking spaces.

### *Environmental Consequences*

At Guanella Pass Campground, the boundary between the campground and the road is located 7.6 meters (25 feet) from the road centerline, on both sides of the road. Widening the road through this area under all build alternatives takes approximately 0.01 hectare (0.02 acre) in a strip 1.5 meters (5 feet) wide from the west portion of the campground, but does not impact any structures. The campground remains divided by the road. Walls and cut slopes for one of the switchbacks above the campground are visible.

### Avoidance Alternatives

The Naylor Creek Realignment option (now dropped) would move the roadway to the west side of the campground. It would require 0.2 hectare (0.5 acre) of additional new ground disturbance and retaining walls that costs more than the proposed improvements in the area. The retaining wall and cut slopes associated with the westward alignment shift are higher on the hill above the campground, and therefore more visually intrusive. To re-establish access, one campsite is taken. Therefore, moving the roadway to the west could not avoid impacts to the campground.

Shifting the road to the east of the campground requires more than 1 kilometer (0.6 mile) of new road, a new access road to the campground, and two crossings of South Clear Creek. Also, riparian areas are impacted adjacent to the creek, and the road would go through a portion of the Mt. Evans Wilderness Area. This alternative is not prudent.

## Measures to Minimize Harm

The typical section for Alternative 6 is narrower than for the other build alternatives. This minimizes the impacts to Section 4(f) resources adjacent to the roadway. New slopes will be revegetated. On the switchback that is visible from the campground, rock stain will be applied to any new rock cuts to reduce their visual impact. Rock faces will be blasted in such a way that the resulting exposed rock will have an irregular, natural looking appearance. 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.

## **ALTERNATIVES THAT AVOID ALL SECTION 4(F) RESOURCES**

### **Alternative 1 (No Action)**

Alternative 1 leaves Guanella Pass Road in its current condition. The existing deficient characteristics of the roadway remain. This alternative does not affect any of the Section 4(f) resources.

### **Other Corridors**

No other practical alternatives avoid all Section 4(f) resources and serve existing uses or address the purpose and need for the project.

## **COORDINATION**

The Town of Georgetown and Historic Georgetown, Inc. have requested mitigation for visual impacts to the GSPNHLD. Mitigation has been included in the project to the extent practicable. The State Historic Preservation Officer (SHPO) initially requested more information on several historic sites. Further investigations were conducted and are included in this evaluation. The FS has agreed with the effects to the campgrounds and picnic area. The Department of the Interior (DOI) has reviewed the impacts.

The FHWA has and will continue to work closely with the FS, the DOI, Georgetown, Clear Creek County, Park County, Historic Georgetown, Inc., and the SHPO throughout this environmental process and the design phases to assure that all reasonable considerations for protection and enhancement of the Section 4(f) resources are carefully considered. To date, this coordination has taken the form of meetings, field reviews, and correspondence. Coordination meetings and field reviews will continue throughout the process. For more information on project coordination, see **Chapter VII: Project Coordination** and **Appendix A: Interagency Correspondence**.

## **FINDINGS**

Based upon the considerations outlined in the above analysis, there is no feasible and prudent alternative to the use of land from the following Section 4(f) properties: the GSPNHLD, Mine Tailing Dumps (sites #5CC988-990), and Guanella Pass Campground. The proposed action includes all possible planning to minimize harm resulting from such use.

## 5. Right-of-Way

With cooperation from the FS, Clear Creek County, Park County, and the Town of Georgetown, ROW will need to be acquired for any of the build alternatives. Most of the roadway passes through public lands that would require a land transfer from the FS to the appropriate maintaining agency. Where the project passes through private property and additional ROW is needed, typically the maintaining agency will acquire these additional easements. Where possible, design and construction techniques will be used to keep the proposed work within the existing ROW. Alternatives 2 and 3 would require the largest amount of additional ROW because they involve full reconstruction for the entire length of the road. Alternatives 4 and 5 would require less ROW than Alternatives 2 and 3 because they involve either rehabilitation or no action for portions of the road. Alternative 6 would require the least amount of additional ROW among all of the build alternatives because of the decreased amount of full reconstruction, reduced roadway width, and lower design speed, all of which result in a closer match to the existing roadway and associated existing ROW.

Property acquisitions will be done in accordance with applicable provisions of the Uniform Relocation and Real Property Act of 1970 (P.L. 91-646) and the Uniform Relocation Act Amendment of 1987 (P.L. 100-17). All acquisitions consist of land only; no structures will be taken.

## 6. Utilities

Power poles and underground telephone lines at some locations would need to be moved under all build alternatives. Utilities would be relocated within the ROW of the new road wherever practical. The FHWA would coordinate with appropriate utility companies before reconstruction to determine the timing and details of power and telephone line relocations. The proposed improvements for any build alternative would not result in any interruptions in the existing utility services.

## 7. Floodplains

### *Affected Environment*

A study was performed which included an analysis of effects to floodplains. Detailed floodplain information is contained in the report *Preliminary Hydrology & Hydraulics Report* (MK Centennial, January, 1995). Federal Emergency Management Agency (FEMA) maps and flood history were reviewed, and several hydrology methods were evaluated to estimate peak flow. Water surface profiles were generated for the 10, 50, and 100-year frequency floods using the USACE's HEC-2 Water Surface Profile computation program.

Floodplain information is available from FEMA and other sources for Clear Creek throughout the Town of Georgetown and for South Clear Creek upstream to the upper Georgetown town limits. No existing floodplain information is available for Geneva Creek or any tributaries to these three principle streams. There are no mapped or established regulated floodplains along the project alignment; therefore, the results of the hydrology study set the floodplain base flood elevations. These base flood elevations were used to determine the 100-year floodplain elevations throughout the project area.

The existing road surface elevation is below the 100-year floodplain elevation at nine locations along the road, totaling 0.72 kilometer (0.44 mile) in length. Eight of these locations are along Geneva Creek between stations 2+800 and 5+500. The other area, about 0.02 kilometer (0.01 mile) in length, is located along South Clear Creek near station 29+900. Roads existing below the floodplain elevation are prone to extreme sedimentation and road failure during extreme precipitation events.

### ***Environmental Consequences***

Roadway flood-prone areas were identified throughout the project alignment. Problems include culvert overtopping and inundation of the road in the floodplain. Reconstructed portions of the roadway would mitigate these potential flood-prone areas. Inadequate culverts would be upgraded to pass the 50-year flood at all stream crossings without overtopping the roadway. The new roadway would be constructed so that it does not cause greater than a 0.3 meter (1 foot) rise to the 100-year base flood elevation. The allowance of a 0.3 meter (1 foot) rise is consistent with FEMA floodplain policy. This 100-year base flood elevation has been identified for all the streams in critical areas along the roadway. Culverts would be developed to accommodate the 50-year flood. Bridges would be designed to withstand the 100-year flood. Culvert upgrades at creek crossings would consist mainly of corrugated steel pipe with natural bottoms.

The proposed 7<sup>th</sup> Street bridge is located outside of the 100-year floodplain.

#### Alternative 1

Alternative 1 leaves the roadway elevations unchanged, so the potential for flooding and washouts remain.

#### Alternatives 2 and 3

Under Alternatives 2 or 3, the roadway surface elevation along Geneva Creek would be raised, and any needed widening would be done on the side of the road away from the creek and upland from the floodplain. The small area near station 29+900 would be within a reconstruction area, so the roadway surface elevation would be raised here as well. Raising the roadway grade by one meter (three feet) on average for the 0.72 kilometer (0.44 mile) of encroachment length would fill into at most 0.3 hectare (0.7 acre) of land below the 100-year water surface elevation. This small amount of floodplain encroachment resulting from Alternatives 2 or 3 would not result in any risk or have any impact on human life, property, or the natural environment. There is no permanent human habitation or land suitable for cultivation along any of the streams where encroachment occurs.

## Alternatives 4 and 5

The areas along Geneva Creek are within No Action and rehabilitation sections under Alternatives 4 and 5, respectively, so the roadway surface would remain below the 100-year floodplain elevation, and the risk of washouts would not change from current conditions. The last section, at approximately station 29+900, would be within a reconstruction area, so the roadway elevation would be raised.

## Alternative 6

Under Alternative 6, the eight sections along Geneva Creek would be rehabilitated; therefore, the roadway surface elevation would remain below the 100-year floodplain elevation. The risk of washouts would not change from the current conditions. The last section, at approximately station 29+900, would be within a reconstruction area, so the roadway elevation would be raised.

## **8. Farmlands**

Consultation with the Natural Resources Conservation Service (formerly the Soil Conservation Service) revealed that there are no farmlands subject to the Farmland Protection Policy Act within the Guanella Pass Road study corridor.

## **9. Environmental Justice**

Executive Order No. 12898 addresses environmental justice in minority and low-income populations. This order is designed to concentrate on the environmental and human health conditions of minority and low-income communities in achieving environmental justice. Minimal ROW purchase and no relocations are associated with any alternative. The Guanella Pass Road improvements do not discriminate on the basis of minority or low-income populations, and none of the build alternatives would disproportionately affect minority or low-income populations.

## **10. Services**

### *Affected Environment*

#### **Community Services**

The following information was obtained from local emergency services to Guanella Pass Road and the surrounding areas. The information is based on a survey sent to each police, fire, ambulance, and search and rescue agency that services Guanella Pass Road. The information is used to evaluate potential effects to community services caused by each of the alternatives. Because responses were not received from each agency, the information is based only on those responses received.

Community services are provided by Georgetown, Clear Creek County, and Park County. Some of the services come from paid city and county employees and volunteers provide others.

## **Police Service**

The Georgetown Police Department employs three staff members to provide services. They have two patrol vehicles. During the year 2000, the department responded to approximately 570 calls, with about 20 of those calls coming from Guanella Pass Road.

The Clear Creek County Sheriff's Department employs eight patrol deputies and one sergeant with nine four-wheel drive patrol vehicles and one snowmobile. The department handles about 9,000 calls per year, half of which require written reports. Department officials report only a small number of calls from Guanella Pass Road.

The Park County Sheriff's Department has nine deputies and nine vehicles. The Department handles, on average, 14,000 calls per year, responding to 2,476 during 2000. Five of the calls they responded to were along Guanella Pass Road.

## **Fire Service**

The Georgetown Fire Department has about 30 volunteer firefighters that handle approximately 320 calls per year. The department has two pumpers, one brush truck and one command vehicle. According to fire officials, the Guanella Pass Road area does not generate a large number of calls. The number of fires in the area has remained relatively constant over the years.

The Platte Canyon Fire Protection District covers 650 square kilometers (250 square miles) within Park County including Guanella Pass Road. The District employs one administrator and has 50 volunteer firefighters to handle approximately 500 calls per year. Officials at the fire district get about six calls per year from Guanella Pass Road.

The Clear Creek Fire Authority has jurisdiction over the seven municipalities in Clear Creek County, including Georgetown, Silver Plume, Empire, Dumont, York Gulch, Idaho Springs, and St. Mary's. Of these municipalities, the Georgetown Fire Department responds to the most calls within the Authority – approximately 95 to 98 percent of all fire incidences. The Authority has two initial response vehicles, one command response vehicle, and two to four second alarm response vehicles. The Authority has eighteen initial response volunteers and one full-time staff member (chief) for initial response. Approximately 530 fire incidences were handled by the Authority in 2000. Only two to three of these calls per year are from Guanella Pass Road.

## **Ambulance Service**

Ambulance services in Clear Creek County are provided through a staff paramedic/coordinator and about 40 volunteers. The service has six vehicles that they use to respond to calls. They handle approximately 1,400 calls per year and respond to about 400 incidences/accidents. An employee of Clear Creek County Ambulance estimates that they respond to about 25 calls per year from Guanella Pass Road.

Platte Canyon Rescue is a non-profit organization contracted by Park County to provide ambulance service to the Platte Canyon area including Guanella Pass, Kenosha Pass, Upper Rim Rock Road and Harris Park. They have ten part-time paid employees that monitor the station during the day (8:00 a.m. to 6:00 p.m.) and 30 volunteer crew members on call. They have two advanced life support ambulances and one basic life support ambulance and handle approximately 500 calls per year. Very few calls are from Guanella Pass Road.

## **Search and Rescue Services**

The Alpine Rescue Team is a non-profit search and rescue unit that serves the Guanella Pass Road area. No information was given about their operations.

Park County's Search and Rescue unit is a non-profit volunteer organization under the wing of the Sheriff's Department. There are 35 volunteer members that handle about 50 calls per year all over Park County. The organization has six vehicles that they use to handle incidences. In 2000, they received seven calls and handled seven incidences on Guanella Pass Road.

## **Other Services**

FS Law Enforcement Officers (LEO's) also patrol Guanella Pass Road and surrounding forest lands. One LEO from the Pike NF and one from the Arapaho NF each patrol their portions of the road approximately once a week. Primary LEO duties in the area involve checking campgrounds and picnic areas as well as monitoring dispersed recreational activities along the road including camping, hiking, off-road riding, horseback riding, fishing, and shooting.

Guanella Pass Road is maintained by Park and Clear Creek Counties, as their budget allows. The maintenance activities of the counties include snow removal, grading of the dirt and gravel areas, pothole patching, placement of new aggregate, application of  $MgCl_2$  for dust control, rock removal, and replacement of culverts, signs, and delineators.

## ***Environmental Consequences***

### **Police, Fire, and Search and Rescue Services**

Based on the number of existing emergency response calls and the projected traffic volumes for the No Action Alternative and for each of the build alternatives, it is expected that the emergency services will see an increase in calls and requests for assistance. It is not clear, however, how much of an increase can be expected. A conservative estimate would be to assume that the increase in calls is proportional to the amount of increased traffic. The increases in road safety proposed for the build alternatives will most likely result in less emergency calls per vehicle than currently exists.

#### Alternative 1

The number of emergency service calls for Alternative 1 (No Action) could be expected to increase 56 percent by the year 2025 based on 1995 traffic volumes.

#### Alternatives 2, 4, and 5

Under Alternatives 2, 4, and 5, the number of emergency service calls will increase an estimated 40 to 80 percent over no action, or 119 to 181 percent by the year 2025 based on 1995 traffic volumes. These substantial increases are partly due to the increased amount of paved roadway.

#### Alternative 3

The amount of emergency service calls for Alternative 3 are projected to increase 35 percent over no action, or 111 percent by the year 2025 based on 1995 traffic volumes.



## Alternative 6

Alternative 6 will have the least impact of the build alternatives and increase the number of calls an estimated 20 percent over no action. Based on 1995 traffic volumes, the number of calls are forecast to increase 88 percent over the existing number by the year 2025 with Alternative 6.

### **Other Services**

Also, increased traffic levels through Georgetown may increase the need for street maintenance on local streets in Georgetown. At certain busy times in the summer and during aspen viewing season, there is difficulty in finding parking spaces. Many people park on the town's narrow streets and this adds to the traffic congestion. Additional people in the area may increase the need for trash collection and removal and the demand for use of public toilets.

A more detailed analysis of this topic is provided in the *Guanella Pass Road Colorado Forest Highway 80 Social Impacts Technical Memorandum* (MK Centennial and Hermsen Consultants, March 1997).

### **11. Maintenance Cost**

As with any costs that are developed in the FEIS, the maintenance costs are intended to give a relative comparison between alternatives and are not intended for county or city budget planning. The maintenance costs are developed with assumptions that may or may not be an accurate representation of actual maintenance activities at the time of project implementation.

#### **11a. General Maintenance**

##### *Affected Environment*

Guanella Pass Road currently requires substantial maintenance efforts resulting in high maintenance costs for both Park and Clear Creek Counties. The maintenance effort is particularly burdensome during the summer and fall when traffic volumes are high. During the winter, the counties experience difficulty with snow removal and storage, and drifting at the top of the pass.

Existing maintenance activities include snow removal, grading of the dirt and gravel areas, pothole patching, placement of new aggregate, application of  $MgCl_2$  for dust control, rock removal, and replacement of culverts, signs, and delineators.

##### *Environmental Consequences*

All alternatives were evaluated at the same level of detail for maintenance costs. To allow for an equal comparison, this analysis assumes maintenance costs for Alternative 6 are based on the same types of surfaces (asphalt pavement and gravel) as the other alternatives to give an equal comparison.

The level of future maintenance provided for the roadway depends on traffic volumes, future surface conditions, climatic conditions, and the counties' maintenance budgets and resources. For comparison purposes, the future maintenance costs assume that the road surfaces (both gravel and paved) are maintained to a level consistent with standard recommended practices, preferred surface conditions, and projected traffic volumes.

The main maintenance items included in the evaluation of future maintenance costs consistent with standards for a gravel surface include periodic grading, application of MgCl<sub>2</sub>, and replacement of gravel. The main maintenance items included for the asphalt surface include pavement sealing, patching, chip seal, and striping.

Table III-33 shows the twenty-year maintenance cost by county for all alternatives. The cost of maintenance of the road after construction of Alternative 6 is 64 percent of the cost of maintenance under Alternative 1 (No Action). Of the four build alternatives that have gravel surfaces, Alternative 5 is the least expensive to maintain, followed by Alternative 6. Alternative 5 is only less expensive because it consists of more paved surface sections than Alternative 6. Alternative 6 has roughly twice the length of unpaved surface as Alternative 5, but only costs 1.3 percent more to maintain.

**Table III-33**  
**Twenty Year Maintenance Cost Comparison by Alternative (1995 Dollars)**

Alternative	Park County	Clear Creek County	Total
Alternative 1 (No Action)	\$3,203,000	\$6,106,100	\$9,309,100
Alternative 2	\$1,453,000	\$3,339,900	\$4,792,900
Alternative 3	\$2,339,400	\$5,149,100	\$7,488,500
Alternative 4	\$3,029,200	\$3,597,300	\$6,626,500
Alternative 5	\$2,503,500	\$3,392,800	\$5,896,300
Alternative 6	\$1,714,500	\$4,256,800	\$5,971,300

*Source: Guanella Pass Road Life Cycle Cost Analysis, MK Centennial, December 1997 and Life Cycle Cost Analysis Addendum, May 2000.*

Alternative 6 reduces the maintenance cost of the gravel surfaces (compared to Alternatives 2-5) because of several factors:

- The road is narrower and requires less replacement gravel.
- The design speed is lower and reduces the amount of gravel loss and, therefore, reduces the amount of replacement gravel needed for maintenance.
- The traffic volume is lowest of the alternatives and reduces the amount of gravel loss and, therefore, reduces the amount of replacement gravel needed for maintenance.

For all alternatives, winter closure of the road will reduce the maintenance costs associated with plowing the road. Plowing on a gravel surface strips the road of gravel and increases the amount of required replacement gravel and frequency of maintenance.

Winter closure also helps preserve the surface structure (paved or gravel) by reducing the exposure of the surface to freeze-thaw cycles that result when the road is cleared of snow. The

snow acts as insulation to the road that protects it from the temperature extremes that occur between the winter days and nights. Fewer freeze-thaw cycles reduce the amount of maintenance required to repair the road.

Finally, winter closure reduces the amount of traffic on the road. Less traffic means less maintenance.

### 11b. Maintenance Costs of the Alternative Surface Types

The alternative surface types included in the cost evaluation are MgCl<sub>2</sub>, PennzSuppress D, Perma-Zyme, Road Oyl, macadam, and recycled asphalt. These surfaces vary in strength, durability, and life cycle. Differing levels and schedules of maintenance and surface reconstruction account for differences in cost between the alternative surface types.

The costs related to maintenance for each alternative surface type was calculated using the *Guanella Pass Road Colorado Forest Highway 80 Life Cycle Cost Analysis Addendum*, the *Engineering Estimate for Alternative Surface Type Test Strips*, and *Colorado Department of Transportation (CDOT) 1996 Cost Data*. Individual county costs were averaged to determine a single unit cost per item.

Reconstruction and maintenance costs were determined on a per kilometer (per mile) basis. Table III-34 provides the per kilometer (per mile) unit cost in 1996 dollars for each item. For the purpose of this comparative analysis, a kilometer (mile) section is assumed to be 6.7 meters (22 feet) wide, 1 kilometer (1 mile) long, and 0.15 meters (0.5 feet) deep.

**Table III-34**  
**Unit Costs of Maintenance**  
**(1996 Dollars)**

Surface Type	Cost of one Reconstruction \$/km (\$/mi)	Annual Cost of Common Maintenance* \$/km (\$/mi)	Annual Cost of Periodic Maintenance** \$/km (\$/mi)	Cost of One Surface Replacement*** \$/km (\$/mi)
MgCl <sub>2</sub>	\$77,500 (\$124,800)	\$2,700 (\$4,400)	\$1,500 (\$2,400)	\$83,800 (\$135,000)
PennzSuppress D	\$77,500 (\$124,800)	\$2,700 (\$4,400)	\$2,800 (\$4,500)	\$83,800 (\$135,000)
Perma-Zyme	\$77,500 (\$124,800)	\$2,700 (\$4,400)	\$1,700 (\$2,700)	N/A
Road Oyl	\$187,500 (\$301,900)	\$2,700 (\$4,400)	\$4,300 (\$6,900)	\$91,900 (\$148,000)
Macadam	\$98,600 (\$158,700)	\$2,700 (\$4,400)	\$3,800 (\$6,100)	\$16,200 (\$26,000)
Recycled Asphalt	\$180,900 (\$291,300)	\$2,700 (\$4,400)	\$3,800 (\$6,100)	\$91,900 (\$148,000)

\*Common Maintenance includes snow removal during the winter months, and grading of the dirt, gravel, or gravel alternative areas in the summer months.

\*\*Periodic Maintenance includes pothole patching, placement of new aggregate (gravel surface material), other maintenance such as rock removal, and the replacement of culverts, signs, and delineators as needed.

\*\*\*Surface Replacements include regrading and complete replacement of the road surface.

After determining the unit costs, the costs over a twenty year period were calculated. Table III-35 represents the 20-year cost for each type of surface based on the number of reconstructions and the amount of maintenance required over a 20-year period (described in Table III-36).

**Table III-35**  
**20-Year Maintenance Cost per Kilometer (per Mile) Section**  
**(1996 Dollars)**

Surface Type	Cost of Reconstructions \$/km (\$/mi)	Cost of Common Maintenance \$/km (\$/mi)	Cost of Periodic Maintenance \$/km (\$/mi)	Cost of Surface Replacements \$/km (\$/mi)
MgCl <sub>2</sub>	\$77,500 (\$124,800)	\$54,000 (\$88,000)	\$25,500 (\$40,800)	\$251,400 (\$405,000)
PennzSuppress D	\$77,500 (\$124,800)	\$54,000 (\$88,000)	\$25,200 (\$40,500)	\$251,400 (\$405,000)
Perma-Zyme	\$387,500 (\$624,000)	\$54,000 (\$88,000)	\$25,500 (\$40,500)	N/A
Road Oyl	\$562,500 (\$905,700)	\$54,000 (\$88,000)	\$73,100 (\$117,300)	\$183,800 (\$296,000)
Macadam	\$98,600 (\$158,700)	\$54,000 (\$88,000)	\$72,200 (\$115,900)	\$32,400 (\$52,000)
Recycled Asphalt	\$180,900 (\$291,300)	\$54,000 (\$88,000)	\$72,200 (\$115,900)	\$91,900 (\$148,000)

**Table III-36**  
**Amount of Maintenance Required Over a 20-Year Period**

Surface Type	Number of Reconstructions	Years of Common Maintenance	Years of Periodic Maintenance	Number of Surface Replacements
MgCl <sub>2</sub>	1	20	17	3
PennzSuppress D	1	20	9	3
Perma-Zyme	5	20	15	0
Road Oyl	3	20	17	2
Macadam	1	20	19	2
Recycled Asphalt	1	20	19	1

Table III-37 provides the total cost of each type of surface over a 20-year period per kilometer (mile). For the complete cost analysis refer to the *Lifecycle Cost Analysis of Alternative Surface Types Technical Report* (MK Centennial, September, 2002).

**Table III-37**  
**Total 20-Year Maintenance Cost per Kilometer (per Mile)**  
**(1996 Dollars)**

Surface Type	Total Cost \$/km (\$/mi)
MgCl <sub>2</sub>	\$408,400 (\$658,600)
PennzSuppress D	\$408,100 (\$658,300)
Perma-Zyme	\$467,000 (\$752,500)
Road Oyl	\$873,400 (\$1,407,000)
Macadam	\$257,200 (\$414,600)
Recycled Asphalt	\$399,000 (\$643,200)
NOTE: The 20-year maintenance cost of a gravel-only surface, using an identical analysis, is approximately \$565,700 per kilometer (\$910,700 per mile).	

## 12. Cumulative Impacts

Cumulative impacts include the effects of past, present, and future State, tribal, local, or private actions that are reasonably certain to occur in the action area. Actions identified as possibly falling into this category with respect to the proposed project for Guanella Pass Road include past mining activity in the roadway vicinity, initial construction of Guanella Pass Road, construction of I-70 near Georgetown, widening of U.S. Highway 285, reservoir construction, power plant and power transmission line construction, campground, picnic area, and trail construction, subdivision and development of privately owned land, general population growth, and implementation of the CMS proposals.

The CDOT is currently widening U.S. Highway 285 from Tinytown Junction southwest to Foxtown Road. Future plans for widening extend only to Bailey, which is 18 kilometers (11 miles) east of the Guanella Pass Road intersection with U.S. Highway 285. Because of the great distance between this project and Guanella Pass Road, no cumulative impacts associated with the U.S. Highway 285 widening project are anticipated.

The FS, the counties, Georgetown, and other stakeholders have prepared a management strategy for the Guanella Pass Road Scenic and Historic Byway. The CMS prescribes general recommendations for the entire byway as well as specific desired conditions and action items for nine separate management zones within the byway. However, the CMS is only a guidance document, not a decision document, and no funding is attached to the CMS. Therefore, it is uncertain which, if any, of the recommendations will be implemented, and in what time frame.

The Pike-San Isabel NF is scheduled to implement a mandatory self-registration permit program for its wilderness areas, including the Mt. Evans Wilderness Area. This program should be in place by the year 2003, and will allow the FS to monitor area usage and provide educational and regulatory information to visitors.

The FS is currently building a section of the Continental Divide National Scenic Trail approximately six miles to the west of Guanella Pass. The trail, when completed, will run from Canada to Mexico. The section of the trail closest to Guanella Pass Road is scheduled for completion by the year 2007.

### *Affected Environment*

#### **Social Environment**

##### Community Character

The community character of Georgetown has changed over the years from a mining town in the 1860's to a recreational center for the people of Denver more recently. In 1859, the brothers George and David Griffith staked a claim at the future site of Georgetown. The population grew to 5,000 by 1876, but prosperity was fleeting and Georgetown's days as "Silver Queen" came to an end with the repeal of the Sherman Silver Purchase Act of 1893. Mines were closed and Georgetown's population shrank to a low of 300 in 1930. The current population is approximately 1,100. Construction of I-70 in the 1960's has contributed to changes in the character of Georgetown.

##### Traffic Volumes

The construction of I-70 in the 1960's, development of privately owned land, development of recreational resources along the road, and general population growth have contributed to traffic growth in the project area.

##### Population and Demographics

The population of Georgetown has fluctuated from 5,000 in 1876, to 300 in 1930, to nearly 1,100 in the year 2000. The rise and fall of mining in the area and the construction of I-70 have contributed to the fluctuations in population.

##### Local Economy

The economy of Georgetown has changed over the years from a mining based economy to a recreation based economy. These changes have been influenced by mining activity in the area, the development of recreational resources, and the construction of I-70. Mining has also influenced the economy of Grant.

##### Land Use

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.

## Cultural Resources

Past mining in the area resulted in the creation of several cultural resources, including the GSPNHLD, the Colorado Central Railroad Grade, the Marshall Tunnel, mine tailings dumps, and the Farwell Smelter remains. The construction of the Georgetown Forebay Dam and Reservoir and Clear Lake Dam and Reservoir created those cultural resource sites. The construction of I-70 impacted the visual character of the GSPNHLD.

## **Water Resources**

### Water Quality

Mining activities have impacted water quality in portions of the project area. Past construction of mines, roads, campgrounds, picnic areas, trails, and dams has caused erosion and sedimentation and has altered the water flow in the area and created more unvegetated areas than prior to their construction. The larger amount of exposed ground and concentration of flows has contributed to sedimentation in area waters.

### Wetland and Riparian Communities

Past construction of mines, roads, campgrounds, picnic areas, trails, and dams has caused erosion and sedimentation and has altered the water flow in the area, destroying some wetland and riparian communities while creating others. In addition, mine tailings have impacted water quality, which has affected some wetland and riparian communities.

## **Visual Quality**

Historic and modern development of communities, recreational sites, mining activities, and public works projects shape the visual environment over time. Positive and negative viewpoints regarding visual quality are often a matter of opinion.

## **Recreation Resources**

The initial construction of Guanella Pass Road opened the recreational opportunities in this area. The construction of campgrounds, picnic areas, and trails has added to the recreation in the area. Construction of I-70 made access to recreation easier and faster for the people of Denver. General population trends have contributed increase the number of people recreating in the area.

## **Plants and Animals**

Past construction of mines, roads, houses, campgrounds, picnic areas, trails, power plants, and dams, as well as population growth in the region, has impacted wildlife habitat in the area. In addition, 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.

Impacts to wildlife include direct habitat loss, habitat alteration, habitat fragmentation, displacement due to human presence, and direct mortality. As human presence continues to increase in the area, impacts to wildlife will continue to increase as well.

## **Air Quality**

Air quality is influenced by the amount of unpaved roads and traffic volumes as well as human activities that require the burning of fuels. As the population has grown on the Front Range, traffic volumes have increased both on Guanella Pass Road and on nearby roads such as I-70. Increasing nonpoint pollution sources from the Front Range and Denver areas, such as vehicle emissions, agricultural dust, and emissions from construction activities, combined with localized sources of dust and emissions along the Guanella Pass Road add to the cumulative air quality impacts.

## **Noise**

Past construction of mines, roads, houses, campgrounds, picnic areas, trails, power plants, and dams has contributed to the increased human presence in the area. Along with human presence comes noise created by people or machinery. As human presence continues to increase in the area, the noise level would be expected to increase as well.

## **Hazardous Materials**

Past mining activities have created the majority of the hazardous waste in the project area. The material can be spread by water (both through erosion and percolation) and by human activities such as recreation and construction. Existing hazardous materials sites are listed in **Chapter III.C.3: Hazardous Materials**.

## **Floodplains**

Past construction of mines, roads, communities, campgrounds, picnic areas, trails, and dams has altered the water flow in the area, impacting the floodplains.

## *Environmental Consequences*

### **Social Environment**

#### Community Character

Implementation of the proposed project will contribute to the continuing change in the character of Georgetown and Grant.

#### Traffic Volumes

The proposed project and growing population in the area and region will influence future increases in traffic volumes. Traffic volume increases are expected to be greatest for Alternatives 2, 4, and 5; then Alternative 3, Alternative 6, and Alternative 1.

#### Population and Demographics

The proposed project is not expected to contribute to population trends in the area.



## Local Economy

The proposed project will contribute to factors that will affect the economies of Georgetown and Grant.

## Land Use

Sale of additional parcels at the private development at Duck Lake (Alpendorf on the Lake), 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 is improved.

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.

## Cultural Resources

The proposed project will affect the GSPNHLD, contributing to the ongoing changes within the historic district.

## **Water Quality**

### Water Quality

The design of the proposed project, including such enhancements as more culverts to disperse runoff, and the planned mitigation measures will help remedy some of the past water quality impacts.

### Wetland and Riparian Communities

The design of the proposed project and the planned mitigation measures will help remedy some of the past wetland and riparian community impacts.

## **Visual Quality**

The proposed project will contribute to the ongoing changes in the visual quality of the area. The proposed parking area improvements will help bring the area in compliance with the FS VQOs and will improve the visual quality of the area by relocating the parking areas further away from the road, making them less visually intrusive.

## **Recreation Resources**

The proposed project will contribute to increases in recreation in the area.

## **Plants and Animals**

As human presence continues to increase in the area, impacts to wildlife will continue to increase as well. The proposed project will contribute to this increase. The FHWA does not anticipate that the project will result in jeopardizing the continued existence of any federally-listed

threatened or endangered species nor will the proposed project result in requiring any sensitive species to be federally listed as threatened or endangered in the future.

### **Air Quality**

The proposed project is expected to decrease the amount of dust from the roadway. Increased traffic will increase vehicle emissions in the area. It is uncertain whether these factors in combination with others will cause air quality to improve or degrade in the area.

### **Noise**

As human presence continues to increase in the area, noise associated with people is expected to increase as well. However, noise levels are expected to remain low in the area.

### **Hazardous Materials**

Cumulative impacts from the Guanella Pass Road improvements include possible disturbance of existing mine tailing piles or other hazardous materials, as detailed in **Chapter III.C.3: Hazardous Materials**.

All build alternatives will likely cause some disturbance to existing hazardous materials sites. Alternative 1 will not disturb any hazardous materials. The full reconstruction of Alternatives 2 and 3 would likely disturb 6 sites and possibly the Equator Tunnel and Silverdale/Ocean Wave Tunnel. Alternative 4, because of the greater amount of no-action segments, would likely disturb only two sites. Alternatives 5 and 6 would likely disturb five sites.

### **Floodplains**

The design of the proposed project will help remedy some of the past impacts to the floodplains.

## **13. Relationship of Local Short-Term Uses Vs. Long-Term Productivity**

Short-term uses are those that occur on an annual basis, while long-term productivity refers to the capability of the forest to continue producing goods and services to the end of the planning horizon. Short-term uses include firewood harvesting, all recreational uses, livestock grazing, and some land uses authorized under special use permits.

Productivity is primarily based on soil and water resources. Short-term uses that damage soils and soil-water relationships could impair long-term productivity. Forest management requirements provide for protection of long-term productivity by requiring short-term uses to mitigate impacts on soil and water resources.

Short-term increases in sediment would result from road reconstruction. Longer-term reduction of sediment will be based on the amount of pavement and slope stabilization provided by the selected alternative. Additional long-term impacts would include additional traffic and direct habitat loss from road widening. A short-term increase in wildfire potential would exist along the road shoulders following reconstruction activities and before completion of slash disposal work. A long-term risk of fire would exist due to increased roadway and area use. Air quality within the analysis area may be temporarily impacted during dry periods because of dust created by heavy equipment and vehicles. Long-term improvements in air quality would result from implementing paving alternatives.

Benefits of the project include the following: increased safety for the traveling public, improvement in air quality, reduction of side-slope erosion, additional recreational and interpretive opportunities for all roadway users, and economic benefits to residents of the Georgetown and Grant areas.

The proposed improvements are based on planning that considers present and future traffic requirements along with present and future land uses. The local short-term impacts and use of resources by the build alternatives are consistent with the maintenance and enhancement of long-term productivity for the area.

#### **14. Irreversible and Irretrievable Commitment of Resources**

Construction of any of the build alternatives for Guanella Pass Road involves a commitment of natural, physical, human, and fiscal resources. These specifically include land, earth fill, fossil fuels, labor, aggregates, and bituminous paving material.

The use of the land is generally considered an irreversible commitment of the resource. Land within the roadway prism and outside the existing disturbed area is removed from the resource base for plants and animals. This project will require a minimal amount of additional ROW. Most of the disturbed land is within an area already committed as a roadway. The use of the earth fill, fossil fuels, labor, aggregates, and bituminous paving material are generally not retrievable. These resources are not in short supply and their use will not have an adverse effect upon continued availability of these resources. An irretrievable commitment of labor and public financial resources would be used in locating, designing, and constructing the proposal.

#### **15. Permits and Approvals Required**

Construction of any of the build alternatives for Guanella Pass Road requires the following approvals:

##### **U.S. Forest Service**

1. Letter of Consent (Federal Land Policy and Management Act 36 CFR 251) – To allow the FHWA to use NF lands for road purposes.
2. Special Use Permit – To allow off-site construction related activities on NF lands.
3. Mineral Material Permit – To allow the FHWA to take borrow material from NF lands.

4. Timber Settlement Agreement – To allow the FHWA to harvest commercial timber on NF lands before disturbance. Harvesting would be conducted only to clear the area necessary for road construction.
5. A federal land transportation easement deed transfer from the FS to the counties (who maintain the road).

#### **U.S. Fish and Wildlife Service**

1. Section 7 Consultation (Endangered Species Act 50 CFR 402) – To ensure that the action taken would not jeopardize the continued existence of threatened or endangered species, or result in the destruction or modification of critical habitat.

#### **U.S. Army Corps of Engineers**

1. 404 Permit (CWA 33 CFR 320) – to allow the FHWA to discharge dredged or fill material into waters of the U.S., including wetlands.

#### **Colorado Department of Public Health and Environment**

1. 401 Certification – To certify that any activity requiring a federal license or permit that may result in any discharge into waters of the U.S. would not cause or contribute to a violation of state surface water quality standards.
2. NPDES Permit – To allow discharge of storm water from projects 2 hectares (5 acres) or more in area to state waters. In March 2003, the permit would be needed for 0.4 hectares (1 acre) or more. A construction dewatering permit and an authorization for a temporary increase in turbidity also would be needed.

### **D. ENVIRONMENTAL IMPACTS OF WINTER CLOSURE**

The quantitative impacts to the environment as a result of closing Guanella Pass Road during the winter season have not yet been determined. Beneficial and adverse impacts that may occur fall into the categories of wildlife resources, wetland and riparian resources, recreational resources, and ROW.

The following is a summary of anticipated environmental impacts (adverse and beneficial) if winter closure is implemented:

- Winter closure would likely reduce direct and indirect impacts on the winter habitat of general wildlife including bighorn sheep, white-tailed ptarmigan, Canada lynx, and wolverine.
- Winter closure would reduce direct and indirect impacts on the wetland, riparian, and aquatic resources.

- Current parking facilities in the proposed locations of the roadway closure will be expanded. It is estimated that at least 35 spaces are needed at Naylor Lake (assumed Clear Creek County closure point), and approximately 10 spaces for vehicles as well as four spaces for vehicles with trailers will be needed near the Duck Creek picnic area (assumed Park County closure point).
- Property acquisitions to obtain additional ROW from the Pike and Arapaho NFs may be necessary to provide space for the parking demand during months of roadway closure.
- Winter closure would force recreational users to park at closure points and walk, ski, or snowmobile on the road to reach their destination. This may have an effect on the desire of people to recreate in the area and impact tourism income to the Town of Georgetown.
- Recreation and associated impacts in areas immediately adjacent to the parking areas would likely increase. Areas farther from the parking lot would likely see a decrease in winter recreational use.
- The option for winter closure affects the overall maintenance costs. A winter closure eliminates snow plowing in the section of closure. Currently, Park County and Clear Creek County annually spend about \$2,200 and \$13,700, respectively, on snow plow operations on Guanella Pass Road.
- Plowing snow on a gravel road removes some of the surface. Eliminating the need for snow plowing would result in a reduction in gravel loss, manpower hours, and equipment usage. Consequently, maintenance costs would be reduced.

## E. COMPARISON OF ALTERNATIVES TO THE PROJECT OBJECTIVES

- The purpose of the Guanella Pass Road improvement project is based on the need to balance transportation needs and roadway maintenance needs with the sensitive nature of the environment. The project objectives are based on known problems and concerns related to Guanella Pass Road and developed through the public scoping process. Table III-38 identifies the project objectives as discussed in **Chapter I: Purpose and Need**. Table III-39 states whether or not each project objective is addressed by each alternative. Each alternative is discussed below with respect to the project objectives.
- *Alternative 1 (No Action Alternative)* addresses Project Objective VIII and partially addresses Project Objective VII.
- *Alternative 2* addresses Project Objectives I, II, III, IV, V, VI, and VII, and partially addresses Project Objective VIII.
- *Alternative 3* addresses Project Objectives I, II, III, V, and VI, and partially addresses Project Objectives IV, VII, and VIII.
- *Alternative 4* partially addresses all the project objectives; however, it does not fully address any of the project objectives.

- **Alternative 5** addresses Project Objectives III and V, and partially addresses Project Objectives I, II, IV, VI, VII and VIII.
- **Alternative 6** addresses Project Objectives I, III, and V, and partially addresses Project Objectives II, IV, VI, VII, and VIII. (Alternative 6 addresses Project Objective I to a lesser extent than the other alternatives, and only if the management responsibilities discussed in **Chapter II: Alternatives** are enforced.)

**Table III-38**  
**Objectives of the Guanella Pass Road Improvement Project**

<b>Transportation</b>	
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.
<b>Maintenance</b>	
IV.	Reduce the anticipated maintenance costs to the counties (and town**) maintaining the road.
V.	Repair roadway drainage problems.
<b>Environmental</b>	
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.
* Year 2015 traffic volumes (used in the DEIS) have been revised to year 2025 traffic volumes to show the 20-year traffic projections, based on the estimated project completion date.	
** Added after issuance of DEIS.	
*** Key Issues for this project were identified as: Social Environment, Water Resources, Visual Quality, Recreational Resources, Plants and Animals, and Construction Impacts.	

**Table III-39**  
**Project Objective Status by Alternative**

Project Objective	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6
<b>I.</b>	N	Y	Y	P	P	Y
<b>II.</b>	N	Y	Y	P	P	P
<b>III.</b>	N	Y	Y	P	Y	Y
<b>IV.</b>	N	Y	P	P	P	P
<b>V.</b>	N	Y	Y	P	Y	Y
<b>VI.</b>	N	Y	Y	P	P	P
<b>VII.</b>	P	Y	P	P	P	P
<b>VIII.</b>	Y	P	P	P	P	P
Key: Y = Yes; the Alternative addresses the Project Objective. N = No; the Alternative does not address the Project Objective. P = The Alternative partially addresses the Project Objective.						

## **1. Objective I: Provide a Roadway Width and Surface Capable of Accommodating Anticipated 2025 Traffic Volumes.**

Alternative 1 does not provide a roadway width and structural section capable of accommodating anticipated year 2025 traffic volumes.

Alternative 2 provides a roadway width and structural section capable of accommodating anticipated year 2025 traffic volumes. Improving the roadway surface and widening the road meets the structural and operational standards requirements for the expected traffic volume.

Alternative 3 provides a roadway width and structural section capable of accommodating anticipated year 2025 traffic volumes.

Alternative 4 partially provides a roadway width and structural section capable of accommodating anticipated year 2025 traffic volumes. The sections that are reconstructed and paved accommodate the projected traffic; however, the sections left unchanged do not accommodate expected traffic. These unimproved sections are deteriorating and will not be in good driving condition by year 2025 without continued maintenance activities. These sections are not widened and would impede traffic flow.

Alternative 5 partially provides a roadway width and structural section capable of accommodating anticipated year 2025 traffic volumes. The sections that are reconstructed and paved accommodate the projected traffic. However, the sections that are rehabilitated are not widened, the shoulder width in the rehabilitated sections is less than desired, and vehicles traveling in opposing directions may be required to slow down to pass each other.

Alternative 6 provides a roadway width and structural section capable of accommodating anticipated 2025 traffic volumes only if the FS, Clear Creek County, Park County, and the Town of Georgetown manage the vehicle size allowed on Guanella Pass Road, restrict commercial truck traffic, and manage the corridor land use and development to maintain the status of the road as a rural local road.

## **2. Objective II: Improve Safety by Providing a Consistent Roadway Geometry and Providing Reasonable Protection from Unsafe Conditions.**

Alternative 1 does not improve the safety of the roadway and does not provide consistent roadway geometrics. Existing safety deficiencies will become more of a danger as traffic volumes increase. Driving surface will continue to deteriorate, possibly at a greater rate as traffic increases.

Alternative 2 and Alternative 3 improve the safety of the roadway by widening the road, providing consistent design and engineered geometrics, improving sight-distance, eliminating or reducing ice flows and other problems related to poor drainage, installing guardrail, and providing vehicle pullouts. Alternative 2 and Alternative 3 also provide consistent roadway geometrics. The entire road is reconstructed to a standard cross section 7.2 meters (24 feet) in width.

Alternative 4 partially improves the safety of the roadway. The sections that are reconstructed and paved (51 percent) improve the roadway the same as Alternative 2 and Alternative 3. The remaining sections are left unchanged, and existing safety hazards in these sections are not addressed. Alternative 4 provides consistent roadway geometrics in the reconstructed sections

only. Approximately 49 percent of the road sections of the roadway are left unchanged with a varying width of 6.6 meters and 7.2 meters (22 – 24 feet).

Alternative 5 partially improves the safety of the roadway. The sections that are reconstructed and paved (51 percent) improve the roadway the same as Alternative 2 and Alternative 3. The remaining sections are rehabilitated within the existing width. This includes safety improvements such as eliminating or reducing ice flows and other problems related to poor drainage. Alternative 5 provides consistent roadway geometrics in the reconstructed sections only. The safety hazards related to poor sight-distance and roadway geometry are not addressed in the rehabilitated sections. Approximately 51 percent of the road is reconstructed to a standard cross-section 7.2 meters (24 feet) in width. The remaining sections of the roadway are rehabilitated to the existing width, which varies between 6.6 meters and 7.2 meters (22–24 feet). Minor template corrections are made to the pavement and gravel during resurfacing.

Alternative 6 partially improves the safety of the roadway. The sections that are reconstructed (37 percent) improve the roadway similarly to Alternative 3 (although Alternative 6 is narrower). The remaining sections are rehabilitated (63 percent) within the existing width. The reconstructed sections provide consistent geometry, improved sight distances, and fully address drainage problems. Alternative 6 also provides improved rockfall mitigation, mitigation of roadside hazards, installation of guardrail, and provision for vehicle pullouts. The rehabilitation sections partially address the drainage and ice flow problems as well as the safety concerns related to poor sight distance, roadway geometry, and roadside hazards.

### **3. Objective III: Accommodate and Control Access to Forest Service Facilities Located along the Road.**

Alternative 1 does not accommodate and control access to FS facilities located along the road.

Alternatives 2 and 3 accommodate and control access to FS facilities located along the road.

Alternative 4 partially accommodates and controls access to FS facilities located along the road. The sections that are reconstructed accommodate and control access, the remaining sections do not.

Alternative 5 accommodates and controls access to FS facilities located along the road.

Similar to Alternatives 2, 3, and 5, Alternative 6 accommodates and controls access to FS facilities located along the road. The extent to which any of the build alternative accommodates and controls access to FS facilities will be addressed during design reviews with the FS and other agencies.

### **4. Objective IV: Reduce the Anticipated Costs to the Counties of Maintaining the Road**

Initially, the reconstructed gravel/alternative surface sections do not require as much maintenance as is currently needed. However, as the surface deteriorates (faster than a paved surface), the maintenance costs will begin to increase, possibly to a similar level as is needed for the existing gravel surface.



The paved reconstruction sections of the roadway will reduce maintenance costs associated with a poor sub-grade or sub-base including potholes and pavement cracking. The gravel/alternative surface reconstruction sections will reduce maintenance costs associated with excessive gravel loss on steep sections (greater than 9 percent), washboarding, and rutting.

The rehabilitated roadway surface (paved or gravel) provides substantially less service life than the reconstructed sections. The maintenance cost of the rehabilitated gravel/alternative surface sections is initially decreased (compared to no action), but as the gravel/alternative surface begins to deteriorate, the cost of maintenance increases. The rehabilitated paved and chip seal surface sections require similar maintenance activities as the paved reconstruction sections.

Alternative 1 (No Action) does not reduce the cost incurred by the counties in maintaining the road. Maintenance costs may increase as traffic increases.

Alternative 2 reduces the cost incurred by the counties in maintaining the road. Reconstructing the entire road replaces the deteriorated roadway surface. Paving the road eliminates the gravel surfaced sections that are expensive to maintain. The cost of maintenance for Alternative 2 over 20 years is only 51 percent of the cost of maintenance for Alternative 1.

Alternative 3 slightly reduces the cost incurred by the counties in maintaining the road. Reconstructing the entire road replaces the deteriorated roadway surface. Initially, the gravel surfaced sections do not need as much maintenance as the existing gravel surface sections. However, as the gravel surface deteriorates the cost of maintenance will increase. The cost of maintenance for Alternative 3 over 20 years is 80 percent of the cost of maintenance for Alternative 1.

Alternative 4 partially reduces the cost incurred by the counties in maintaining the road. The sections that are reconstructed and paved reduce the cost of maintenance to these sections. However, approximately 15 percent of the roadway remains with the existing gravel surface and the maintenance costs for these sections do not decrease. The cost of maintenance for Alternative 4 over 20 years is 71 percent of the cost of maintenance for Alternative 1.

Alternative 5 partially reduces the cost incurred by the counties in maintaining the road. The sections that are reconstructed and paved reduce the cost of maintenance to these sections. The rehabilitated roadway sections provide substantially less service life than the reconstructed sections. Approximately 15 percent of the roadway is rehabilitated with a gravel surface which requires more frequent maintenance than a paved surface. The maintenance cost for the rehabilitated sections initially decreases but as the gravel surface deteriorates the cost increases. The cost of maintenance for Alternative 5 over 20 years is 63 percent of the cost of maintenance for Alternative 1.

Alternative 6 partially reduces the cost incurred by the counties and town to maintain the road. The entire road surface is reconstructed or rehabilitated. The cost of maintenance for Alternative 6 over 20 years is 64 percent of the cost of maintenance for Alternative 1. For further details on Maintenance/Costs, see **Chapter III.C.11: Maintenance Cost**.

## **5. Objective V: Repair Roadway Drainage Problems**

Alternative 1 does not repair roadway drainage problems.

Alternative 2 and Alternative 3 completely repair the roadway drainage problems along the entire road. As part of the reconstruction, wider ditches and additional culverts are included.

Alternative 4 repairs the roadway drainage problems only in the reconstructed sections. Approximately 51 percent of the road is reconstructed, which includes wider ditches and additional culverts. Approximately 49 percent of the road remains as it is with no drainage improvements performed.

Alternative 5 repairs most roadway drainage problems throughout the entire road, although drainage repairs are more limited in the rehabilitation sections. Both the reconstruction and rehabilitation includes wider or reshaped ditches and additional culverts.

Alternative 6 repairs most roadway drainage problems throughout the entire road, although drainage repairs are limited in rehabilitated sections. The reconstruction segments typically provide wider ditches and address drainage problems better than the rehabilitation segments. The reconstructed sections will help to prevent sub-grade problems related to poor drainage by repairing ditches, flattening drainage slopes, reducing the roadway grade, and adding additional drainage features.

Both the reconstruction and rehabilitation sections include reshaped ditches and additional culverts. Because Alternative 6 has less reconstruction than Alternatives 2-5, there are fewer opportunities to repair roadway drainage problems.

## **6. Objective VI: Repair Existing Unvegetated Slopes**

Alternative 1 does not repair existing unvegetated slopes.

Alternative 2 and Alternative 3 repair existing unvegetated cut slopes in the project corridor. Existing barren slopes within the project limits are reconstructed to promote vegetation. The slopes are revegetated with native plants. All slopes are graded and revegetated using salvaged topsoil to promote revegetation with native plants.

Alternative 4 partially repairs the existing unvegetated slopes. Slopes along the reconstruction sections are graded and revegetated using salvaged topsoil to promote revegetation with native plants. Existing barren slopes within the construction limits are reconstructed to promote vegetation in these sections. The remaining sections of roadway are left unchanged and unvegetated slopes are left unrepaired.

Alternative 5 partially repairs the existing unvegetated slopes. Slopes along the reconstruction sections are graded and revegetated using salvaged topsoil to promote revegetation with native plants. In the rehabilitated portions, the slopes are revegetated only to the extent possible without reconstructing the slope.

Alternative 6 partially repairs the existing unvegetated slopes. Slopes in the reconstructed sections are graded and revegetated using salvaged topsoil to promote revegetation with native plants. The slopes in the rehabilitation sections will be evaluated on a site-by-site basis by the FHWA, FS, and County or Town personnel to determine if it is feasible to repair these sections as part of the project.

## 7. Objective VII: Avoid, Minimize, or Mitigate Adverse Impacts to the Environment by Considering Key Issues Identified Through the Public and Agency Involvement Process

Alternative 1 does not reduce the adverse impact the road has on the natural environment and does not achieve the direction in the 1997 revision of the FS Land and Resource Management Plan.

Alternative 2 considers the key issues and avoids, minimizes, or mitigates the adverse impacts the road has on the natural environment. This objective is accomplished by paving and reconstructing the entire road. Paving the road eliminates the existing dust problems. Sedimentation and erosion are reduced by eliminating the gravel sections of the roadway and improving the embankments and cutslopes. Reconstruction and revegetation of the slopes along the entire length of the roadway reduce long-term erosion and sedimentation.

Alternative 3 does not fully address the adverse impacts the road has on the natural environment. There is a temporary reduction in dust; however, as the new gravel deteriorates, the dust and road-surface erosion will increase. Reconstruction and revegetation of the slopes along the entire length of the roadway reduce long-term erosion and sedimentation.

Alternative 4 does not fully address the adverse impacts the road has on the natural environment. The 51 percent of the roadway that is reconstructed and paved reduces the existing dust problem. In addition, the section of the roadway that is reconstructed includes improving the existing embankment and cutslopes, which reduces long-term erosion and sedimentation. The remaining 49 percent of the roadway that is not improved continues to experience dust problems (in the gravel sections), erosion, and sedimentation.

Alternative 5 does not fully address the adverse impacts the road has on the natural environment. The 51 percent of the roadway that is reconstructed and paved reduces the existing dust problem. In addition, the section of the roadway that is reconstructed includes improving the existing embankment and cutslopes, which reduces long-term erosion and sedimentation. Although the gravel sections are rehabilitated and new gravel is laid, the new gravel will eventually deteriorate, increasing dust and road-surface erosion.

Alternative 6 fully considers the key issues identified through the public and agency involvement process and responds to the input received from the DEIS (see **Chapter I.B.4: Development of a New Alternative**). The selection of surface types have sought to minimize road surface erosion. In particular, hardened surfaces were selected where streams encroach on the roadway. However, Alternative 6 does not fully address the adverse impact that the existing road has on the natural environment. The gravel/alternative surfaces do not necessarily provide long-term reduction of dust and road surface erosion, and the increased amount of rehabilitation in Alternative 6 does not provide complete repair of drainage problems. These impacts are balanced by the benefits gained by:

- A decrease in disturbance to previously undisturbed areas (narrower roadway width).
- A decrease in reconstruction areas.
- A design that permits the road to more closely follow the existing road (changes in functional classification, design speed, and design vehicle).

- A decrease in visual impacts to Leavenworth Mountain.
- A decrease in expected traffic growth.

## **8. Objective VIII: Maintain the Scenic and Rural Character of the Road**

Alternative 1 does not change the existing scenic and rural character of the road.

Alternative 2 provides a more comfortable driving surface and experience for the road user, but changes the existing scenic and rural character of the road by adding new pavement. Some attributes of the rural and rustic character of the roadway are lost through minor widening, new pavement, and roadway reconstruction. However, the roadway will remain a rural road for the following reasons: there is no possibility for development on most of the surrounding land, the existing shoulders and ditches will be revegetated up to the edge of the pavement, and the design includes a low design speed and a narrow roadway width. The scenic quality of the road will be changed by Alternative 2 through removal of unvegetated cuts and the reduction of dust haze in the corridor.

Alternative 3 partially maintains the existing character of the roadway by reconstructing the pavement and gravel sections with the existing surface type. However, the roadway is more open because of the added shoulders and loses some of its rural character while maintaining its high scenic quality.

Alternative 4 partially loses the existing character of the roadway by reconstructing several sections with a new pavement surface. In these areas the roadway is more open because of the added shoulders and loses some of its rural character, but maintains high scenic quality. The remainder of the road is left unchanged and these areas maintain the scenic and rural character of the road.

Alternative 5 partially loses the existing character of the roadway by reconstructing several sections with a new pavement surface. In these areas the roadway is more open because of the added shoulders and thus loses some of its rural character, but maintains high scenic quality. The remainder of the road is rehabilitated with some widening. These areas partially lose some of the rural character of the road, but maintain high scenic quality.

Alternative 6 partially maintains the existing character of the road by not increasing the amount of pavement by a large margin (48 percent existing asphalt pavement versus 56 percent new asphalt pavement) (see Table II-4 for comparison to other alternatives). The roadway loses some of its rural character in the full reconstruction sections, but maintains a high scenic quality overall. The new functional classification and design criteria allow the road to more closely match the existing platform of the road, preserving more of the existing roadside character. The decreased length of reconstruction segments, along with the increased length of rehabilitation segments, cause less disturbance outside of the existing roadway and help to maintain the scenic and rural character of the road.

## **F. SUMMARY OF ENVIRONMENTAL IMPACTS**

A summary of the environmental impacts of the studied alternatives is presented in Table III-40. Please refer to the specific sections within the document for details of impacts to each resource.

## **G. ISSUES ADDRESSED FOR CLEAR CREEK COUNTY AND THE TOWN OF GEORGETOWN**

### **1. Issues**

After the DEIS was published, representatives for Clear Creek County and the Town of Georgetown expressed the need for the FHWA to address specific issues regarding the proposed improvements to Guanella Pass Road. These were addressed within the SDEIS based on the best information available. Park County has provided the FHWA with issues to address regarding the local dude ranch. Park County has informally agreed that their issues will be addressed as Clear Creek County and Georgetown issues are addressed. The County and Town issues are presented below, accompanied by brief explanations of how each was addressed by the introduction of Alternative 6 in the SDEIS.

#### **1a. Clear Creek County**

##### **Affordability of maintenance**

*Issues such as maintenance costs are shown to be lower with Alternative 6 than the No Action Alternative because of the longer life expectancy of the improved roadway.*

##### **Safety issues and mitigation strategies**

*Safety issues would be addressed under Alternative 6, although the correction of safety problems would not be as extensive as for Alternatives 2, 3, and 5.*

##### **Correction of existing environmental problems**

*Existing environmental problems throughout the roadway corridor such as dust, sedimentation, slope erosion, and roadside drainage are addressed by Alternative 6. While environmental impacts are reduced for Alternative 6, improvements to water quality will not be as great under Alternative 6 as Alternatives 2-5.*

##### **Preservation of the rural and rustic nature of the existing roadway**

*Preservation of the rural and rustic nature of the roadway is better maintained under Alternative 6 than Alternatives 2-5 because of the proposed alternative surface types, rehabilitation of a greater amount of the roadway, a narrower width, and closer adherence to the existing alignment.*

##### **Impacts to the environment if no action is taken / Water quality along the roadway if the existing surface types remain / Water quality along the paved sections of the roadway**

*Existing environmental problems throughout the roadway corridor such as dust, sedimentation, slope erosion, and roadside drainage would remain if no action is taken, and would likely deteriorate over time. The use of gravel alternative surfaces in Alternative 6 will improve water quality by reducing the sedimentation and erosion of the road surface that is currently occurring on the gravel portions of the road.*

**Table III-40  
Summary of Environmental Impacts**

	Alternative 1 (No Action)	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6 (Preferred 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)
<b>1. Social Environment</b>						
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.					
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. May impact the visual quality of the GSPNHLD.				No direct impacts to the cultural resources are anticipated for any build alternative. Alternative 6 may impact 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.					
<b>2. Water Resources</b>						
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 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 (1.9)	0.76 (1.9)	0.28 (0.71)

**Table III-40  
Summary of Environmental Impacts**

	Alternative 1 (No Action)	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6 (Preferred Alternative)
<b>3. Visual Quality</b>						
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 may be used to give the paved sections a more rustic character. See <b>Chapter II.B.6a: Surfacing Options</b> 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 <b>Chapter II.G.1: Retaining Wall Design and Slope Treatments</b> and <b>Chapter II.G.3: Guardrail Design and Materials</b> for more information.				
<b>4. Recreational Resources</b>						
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. Potential winter closure of Guanella Pass Road may impact the recreational use of the area by moving the concentration of activity closer to the closure parking areas. See Chapter II.E.3: Winter Closure for additional information. Areas farther away from the parking lots will likely see a decrease in winter recreational use. Recreationalists will be farther away from their destinations and this may create a perceived inconvenience.					
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.	
<b>5. Plants and Animals</b>						
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 Alternatives 2 and 3.		Alternative 6 has less reconstruction than Alternatives 2-5.
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.
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 Findings (preliminary recommendations)	May affect, likely to adversely affect. Potential effects are mainly related to traffic volume and speed, and would be highest under Alternatives 2, 4, and 5, less under Alternative 3, then Alternative 6, and least under Alternative 1.					

**Table III-40  
Summary of Environmental Impacts**

	Alternative 1 (No Action)	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6 (Preferred Alternative)
Fish Habitat	No changes made to improve the existing conditions. Sedimentation problems continue.	Drainage improvements will greatly reduce sedimentation problems. Fish habitats 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.				
<b>6. Construction Impacts</b>						
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
<b>7. Other Resources</b>						
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.		Disturbance to hazardous material sites 12 and 13.	Disturbance to hazardous material sites 7-9, 12, and 13.	
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 in proportion 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 land owners develop properties for recreational or other uses.					



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**Effect on wildlife travel corridors if improvements are made to the roadway / Solutions to minimize impacts to wildlife such as a higher incidence of road kill if traffic volumes increase along the roadway**

*Increased traffic volumes will not be as great for Alternative 6 as they would be for Alternatives 2-5.*

**The benefit to riparian areas along the roadway versus damage to timbered areas if alignment changes are made at the Naylor Lake/Guanella Pass Campground area**

*The realignments proposed in the DEIS are no longer being actively pursued.*

**The effects of winter closure on the roadway and the cost of maintenance**

*Clear Creek County, Park County, and the FS would decide winter closure with input from the Town of Georgetown.*

**The need for a lower impact alternative, with potential for new surface treatments as an alternative to asphalt**

*Wildlife, traffic, and construction impacts will not be as great for Alternative 6 as for Alternatives 2-5 due to less reconstruction, a narrower roadway, and less impact from rehabilitation as opposed to reconstruction. Alternative surface treatments are under consideration for Alternative 6 as an alternative to asphalt but without the environmental consequences of a gravel surface.*

**1b. The Town of Georgetown**

**Public support of winter closure to reduce maintenance costs**

*Clear Creek County, Park County, and the FS would decide winter closure with input from the Town of Georgetown.*

**Long-term and construction impacts to the Town of Georgetown**

*Construction impacts will not be as great for Alternative 6 as they would be for Alternatives 2-5 because of a shorter construction period, proposed use of local material sources for aggregate materials, more rehabilitation work, and a narrower roadway width.*

**Public support of a rehabilitation alternative**

*Alternative 6 proposes more rehabilitation (63% of the total road length) than Alternatives 2-5.*

**The potential for the road to become a popular linkage from I-70 to US 285 if improvements are made to the roadway**

*Potential for the road to become a popular linkage between I-70 and US 285 will not be as great under Alternative 6 because of the reclassification of the roadway from a rural collector road to a rural local road, which allows a narrower width, slower design speed, and closer adherence to the existing winding alignment.*

## **The inability of the Town of Georgetown to sustain a 224 percent increase in traffic and seven to ten years of heavy construction**

*Under Alternative 1 (No Action), traffic volumes are predicted to increase 56% over 1995 volumes by the year 2025. Traffic volumes for Alternative 6 are predicted to increase 88% over 1995 volumes by the year 2025. Construction impacts will not be as great for Alternative 6 as for Alternatives 2-5 because of a shorter construction period, proposed use of local material sources for aggregate materials, more rehabilitation work, and a narrower roadway width.*

## **Visual impacts to the GSPNHLD**

*Visual impacts to the GSPNHLD will not be as great for Alternative 6 as for Alternatives 2-5.*

## **Higher traffic volumes might result in increased income for the Town of Georgetown, but only if parking is available and only after the construction has been completed**

*Construction for Alternative 6 will be of a shorter duration than for Alternatives 2-5, and will be phased to reduce traffic congestion.*

## **Inadequate discussion in the DEIS of the construction impacts on the Town of Georgetown**

*A more thorough discussion of the construction impacts on Georgetown is presented in the SDEIS and FEIS.*

## **The effect of the terminus on the cultural resources on Rose Street, the Farwell Mill Site, and Loop Drive / Changes to the roadway within the town limits of Georgetown should be decided by the Town of Georgetown**

*A proposed construction haul route, including construction of a permanent bridge at 7<sup>th</sup> street, was developed in conjunction with Georgetown to reduce impacts to the town resources. The Georgetown realignment option discussed in the DEIS is not included in Alternative 6.*

## **2. Continuing Coordination**

Coordination on improvements to Guanella Pass Road continues between the FHWA and the agencies, and will continue throughout final design and construction. The following coordination (at a minimum) will take place during final design and construction:

- If requested, the FHWA will coordinate information workshops or onsite field reviews on final design elements including guardrail used, cut and fill walls, revegetation specifications, and traffic control during construction.
- A field review with the cooperating agencies will be conducted once road design plans are 70 percent complete.

- The cooperating agencies will be provided the opportunity to review, comment on, and sign-off on the plans, specifications, and estimates (PSE) package for the proposed road construction. If any of the jurisdictional agencies refuse to sign the PSE package, then there will be no project on land under that agency's jurisdiction.
- Once the construction contract is awarded the cooperating agencies will enter into a partnering agreement with the construction contractor to further identify areas of concern and how they would be addressed.
- The FHWA will have a Project Engineer with an office on-site to address questions and concerns.

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## IV. Mitigation

This chapter establishes the mitigation commitments made for the Guanella Pass Road FEIS. The FHWA is committed to the following mitigation measures for the proposed Guanella Pass Road improvements. For those areas of impact analyzed in **Chapter III: Affected Environment and Environmental Consequences** but not listed here, mitigation is not necessary.

### A. CULTURAL RESOURCES

Since Leavenworth Mountain is the backdrop to the historic setting of the 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. Proposed improvements would 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.

If the FHWA adopts construction of a temporary construction traffic bypass bridge to route construction traffic away from Georgetown along Loop Road to the second switchback on Leavenworth Mountain, a portion of the Colorado Central Railroad Grade (Site #5CC3.1/5CC9) would be adversely affected. However, an adverse effect to this site would not adversely affect the GSPNHLD since it would not substantially diminish those qualities which qualify the GSPNHLD for NRHP listing. If the temporary construction bypass bridge is not adopted, construction traffic will be routed through Georgetown. This traffic would not produce vibrations sufficient to damage historical structures along the haul route, and consequently would not adversely affect the GSPNHLD.

Mitigation measures for impacts to the visual quality of the cultural landscape on Leavenworth Mountain are the same measures listed in the Visual Quality section and will be included in a Memorandum of Agreement (MOA) among the FHWA, SHPO and Georgetown (refer to **Chapter IV.E: Visual**).

The Town of Grant (Site # 5PA403) is outside the project APE 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.

### B. TRADITIONAL CULTURAL PROPERTIES

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

If human remains, associated burial items, sacred items, or items of cultural patrimony (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 shall be consulted before construction continues.

Copies of the EIS, archaeology report, ethnographic report, and other relevant project information will be made available to the tribes as requested. 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 improving drainage and revegetating and stabilizing slopes. The effectiveness of these measures varies by alternative (see text).
- 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 may include sediment traps, berms, furrow ditches, seeding, matting, revegetation, insloping, and 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 October 25, 2001*.
- Flatter slopes will be used where practical to promote revegetation.
- The BMPs detailed in *Technical Memorandum: Best Management Practices (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.
- For most alternatives, an increase in the amount of hardened surfacing would reduce loss of road surface materials into ditches, culverts, and sensitive environmental areas adjacent to the road.

## D. WETLAND AND RIPARIAN COMMUNITIES

Mitigation measures 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.

If a build alternative is selected, a wetland mitigation plan will be prepared in coordination with the FS and the USACE. Identified potential mitigation sites include an area on the southwest side of Clear Lake, an area within the Cabin Creek Reservoir property, the abandoned Geneva Basin Ski Area Parking Lot, and the Bruno Gulch pond. In the event it is determined that wetlands will be created and/or restored at the above locations all appropriate environmental evaluations will be conducted prior to impacting these areas. Purchase of credits from a USACE-approved wetland mitigation bank will also be considered.

Additional mitigation measures 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 Scenic and Historic Byway. The selected alternative should 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. The design materials used in the retaining walls will attempt to blend with the forest and adjacent natural materials. See **Chapter II.G.1: Retaining Wall Design and Slope Treatments** for more discussion of retaining wall design.
- 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.
- All guardrails will be a natural appearance design (timber, naturally weathered rail, or other materials). See **Chapter II.G.3: Guardrail Design and Materials** for more discussion of guardrail design.
- All sign posts 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 should 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.
- 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.

## **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 locations designated by the FS will be restricted by using earthwork grading, boulder placement, guardrails, signs, and other techniques. The build alternatives formalize 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.

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.

## **G. PLANTS AND ANIMALS**

Conservation measures consistent with the goals, standards, and guidelines established in the Forest Plans will be coordinated with the FS, CDOW, and USFWS. These measures will become elements of the selected alternative. At a minimum, the following measures will be addressed:

- Establishing vegetation on all disturbed areas capable of supporting vegetation in cooperation with the FS.
- Developing 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.
- Developing wetland mitigation measures that address wetland habitat replacement needs for wildlife species that use wetlands as habitat.
- Clearing of wetland and riparian habitats prior to the onset of the nesting season will minimize the take of migratory birds and reduce local impacts to species which nest in the construction areas.
- Including mitigation measures for riparian areas in the revegetation plan developed in coordination with the FS.
- Conducting surveys along the entire road corridor for raptors in the year prior to construction. The purpose is to identify areas that need to be identified in the construction contract because they may have restricted construction periods.
- Scheduling construction activities to minimize impacts to sensitive species.
- Encouraging reduced speeds with rough-textured surfaces and regulatory and warning speed control signs and at kiosks.
- Constructing creek crossings with natural bottom culverts and constructing oversized culverts in appropriate areas for small mammal crossings.
- Staggering or terracing retaining walls where appropriate to allow safe passage of large mammals through high cut and fill locations.

Soliciting design comments from wildlife agencies. The FS will review preliminary design plans and provide feedback regarding specific wildlife mitigation techniques. The FHWA will also coordinate with the USFWS and CDOW.

## H. FEDERALLY LISTED AND OTHER SENSITIVE SPECIES

This section contains mitigation measures for the Federally listed Canada lynx (threatened), the Federal candidates for listing boreal western toad and Porter's feathergrass, and for FS sensitive and management indicator species where mitigation is proposed for a specific animal or plant.

**Canada Lynx:** Existing forest cover adjacent to the road will be maintained to the maximum extent possible. Evaluation of existing conditions indicates that existing forest cover should be maintained 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 NF lands to the west of the road is highest. Slope stabilization and revegetation specifications will be developed to reestablish tree and shrub cover as close to the reconstructed road as is consistent with site characteristics and safety.

The road will be designed to prevent parking in undesignated locations, and the west Guanella Pass parking area will be closed by the FS in the winter.

Guardrail type and materials will be used 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 (this should not affect the lynx since there is no potential habitat within the town limits).

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 walls 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 reviews will be held in coordination with the USFWS, CDOW, and the FS to examine locations at which retaining walls are planned near potential lynx crossing areas. This data will be used to develop site specific input to the final design. Emphasis will be placed on locations such as station 17+870 and station 23+560, where only short gaps are currently planned between relatively long sections of retaining wall.

Parking lot construction activity will not be allowed at Guanella Pass during dawn, dusk, and nighttime hours.

Borrow site activity will be limited to daylight hours.

Borrow sites will be recontoured and revegetated.

In addition to the above mitigation, recommended conservation measures under the jurisdiction of the FS include:

- Close the parking area on the west side of the road at Guanella Pass during the winter. This has been determined acceptable by the FS.
- Prohibit overnight camping within 1/4 mile of the willow corridor at Guanella Pass.
- Close and restore the non-system trail adjacent to the willow corridor.
- Require dogs to be on leash.
- Reconstruct the west-side trail to eliminate braided trail sections in willow habitat.
- Promote the use of system trails through design and interpretation.

**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 (station 25+000-31+500 and station 21+000-23+000) of the road will be evaluated to determine if drift fences could be used to encourage toads to cross the road through culverts or tunnels.

**Porter's feathergrass:** The FHWA will identify construction boundaries from station 9+100 to station 9+700 using temporary fencing and make known to the construction personnel through enforcement of penalties for transgression of the construction boundary.

**Ptarmigan:** In the future, the FS will provide interpretive and informational signs to educate visitors of the sensitivity of the ptarmigan.

**Bighorn sheep:** In the future, the FS will provide interpretive and informational signs 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:** Signing will be provided to address the potential conflict at the elk crossing in Geneva Park.

**Boreal owl:** Night-time 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.

**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 modest transplanting effort (up to six sites) in coordination with FS botanists. Gravelly roadside sites not to be disturbed by a given build alternative should be found and used as recipient sites.

**Northern blackberry:** To protect the blackberry, the FHWA will identify construction boundaries from station 9+100 to station 9+700 using temporary fencing and make known to the construction personnel through enforcement of 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. The FHWA will also make known to the construction personnel through enforcement of penalties for transgression of the construction boundary.

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

## I. CONSTRUCTION

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

### 1. General Construction Mitigation 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. 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 edible foodstuffs 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 may not 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 to ensure that the contractor will be held liable 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 will be monitored for adherence to speed limits, reckless driving, or other potentially dangerous activities. 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.
- In order to provide safe access for horseback riders through the construction zone, construction activities will be coordinated with local outfitters.
- 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.
- The contractor will maintain a reasonably dust-free traveled way. Accumulations of soil and other material will be removed from the traveled way.
- Timing and location of construction operations may 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 **Chapter IV.G: Plants and Animals** of this chapter.
- 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.). Regularly scheduled

uses of the road will be accommodated to the maximum extent practical and with as little delays as possible.

- 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.
- Construction equipment will be washed before entering the NF system lands to reduce the chance of introducing foreign weed seeds to the ecosystem. In addition, all imported fill material and revegetation plant mixes will be weed-free.
- Areas in Geneva Park will be temporarily fenced to protect rare plant areas.
- The FHWA will discuss the timing of construction activities in sensitive areas 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 (i.e. near businesses or residences) will be minimized, or timed, to the extent practical such that there is minimal impact on the surrounding community. No construction activities will take place from Memorial Day through Labor Day from approximate stations 1+000 to 12+000 (Grant to Geneva Campground), including aggregate material hauling. Limited construction and controlled construction traffic will be allowed in May and September. From Labor Day to Memorial Day, construction activities, including aggregate hauling, in the vicinity of Tumbling River Ranch will only occur from 7:00 a.m. to 7:00 p.m. Grading work at Falls Hill will be sequenced to occur from October through April.
- 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.

## **2. Hauling**

- Material sources will be developed within the Guanella Pass Road corridor to reduce the amount of construction truck traffic. Originally, the following six sites were presented for potential use: the Oakley Recreation Area, the switchbacks along Waldorf Cutoff Road, Silverdale, Station 23+340, Duck Lake, and the Geneva Basin Ski Area parking lot. The first four were eliminated from consideration because of technical problems related to access and material suitability. The remaining two 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 would only serve the sections from the Forest Boundary (station 7+000) northward. Aggregate placed from commercial sources from Grant (station 1+000) to the Forest Boundary will come from the Grant side.
- The FHWA's use of Argentine/Brownell Street as a construction haul route will be extensive. Roads within the Town of Georgetown that are on construction haul routes will be repaired. The repairs may 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 (approximately 21 feet) from 15<sup>th</sup> Street to just before 11<sup>th</sup> Street. Additionally, a bridge at 7<sup>th</sup> Street may be constructed. If the FHWA can determine that a reasonable bridge layout will meet FEMA flood plain studies and/or regulations without extensive approach fill heights, then the FHWA will agree to the design and construction of the new bridge. See **Chapter IV.I.4: Town of Georgetown – Construction Impact Mitigation** 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 occurring 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 as they are under construction.

### **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 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 Environmental Mitigation commitments are being implemented and adhered to by the contractor. Winter shutdown procedures will be included in the erosion control plan.

The FHWA's project engineer 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 might 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 either 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.

Straw bales may be used in similar fashion or in conjunction with silt fences as a temporary measure. Straw bales 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:

“The construction project engineer will monitor turbidity during the construction of this project. The turbidity will be measured using a HF-DRT 15 turbidimeter or equivalent. Measurements will be taken upstream from the project area (as a control) and 150 meters (500 feet) downstream in the area of highest turbidity



whenever noticeable turbidity is being generated from the project. If these measurements show an increase of 10 Nephelometric Turbidity Units (NTU) or more, the Engineer shall suspend construction operations in the vicinity of the problem area and modify the erosion control plan to eliminate the cause of high turbidity.”

Specific erosion control measures that the contractor will be required to do include:

- Limit the combined grubbing and grading operations area to 30,000 square meters (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 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 for Construction of Roads and Bridges on Federal Highway Projects:

“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 should accidentally dump pollutants that could pollute any water body along the proposed project, emergency action shall 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 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) 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 should 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 (FHWA) 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 for Erosion and Sediment Control (FHWA) 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 Mitigation**

The Town of Georgetown has requested the mitigation of 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 5<sup>th</sup> Street. This connection necessitates curb and gutter installed to the town's specifications from 2<sup>nd</sup> to 5<sup>th</sup> 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 7<sup>th</sup> Street bridge constructed by the FHWA. Vehicles would use Argentine/Brownell to 7<sup>th</sup> and cross to Rose or Argentine depending on vehicle length. The bridge would be permanent. This route limits the number of bridges to one that would be used by construction vehicles, rather than requiring use of the existing bridges on Rose, 11<sup>th</sup> and 6<sup>th</sup> Streets which would have to be re-inspected and possibly reconstructed.

If the FHWA can determine that a reasonable bridge layout will meet FEMA flood plain studies and/or regulations without extensive approach fill heights, then the FHWA will agree to the design and construction of the new bridge. 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 7<sup>th</sup>.

- The FHWA's use of Argentine/Brownell Street as a construction haul route will be extensive. This area is part of Georgetown's proposed Gateway Improvement project. Argentine Street between 15<sup>th</sup> and Loop Drive is to be moved west by a road width and lowered. The existing right-of-way width permits this change. A concept for the area was developed through the Town's public improvement process and the Town has requested bids for final design. Georgetown anticipates the final design concept will be completed at the end of August 2002. The FHWA's work on Argentine Street should be consistent with this design.

Representatives of the FHWA met with Georgetown to learn more about Georgetown's needs relative to providing a haul route through Georgetown and how to mitigate construction damage to Georgetown's streets from the FHWA's construction activities. The FHWA agrees to move Argentine/Brownell Street to the west one roadway width (approximately 21 feet) from 15<sup>th</sup> Street to just before 11<sup>th</sup> Street. The FHWA would taper Argentine/Brownell back to match the existing roadway at the intersection with 11<sup>th</sup> Street. This roadway would 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 would not impact the treed area on the west side of Argentine/Brownell near the intersection of 11<sup>th</sup> 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.

The FHWA has determined that these three mitigation measures as stated above are eligible for Forest Highway Program funding.

## **J. 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 SWMP 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 SWMP will also include a description of the measures used to achieve final stabilization and measures to control pollutants in storm water discharges that might occur after construction operations have been completed.

In the area along the former railroad grade and near the Farwell Smelter, additional study (possibly subsurface sampling) may be required if the temporary construction bypass bridge is implemented. More detailed design of the temporary construction bypass bridge and detour would be required to determine the ground disturbance caused by this temporary bypass route and whether additional study is required.

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 PCBs that may have impacted any soils that might be disturbed from road construction.

## **K. SECTION 4(F) RESOURCES**

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.

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## V. List of Preparers

This list of preparers identifies persons involved in the preparation of the DEIS, SDEIS, and FEIS.

### Federal Highway Administration

#### Study Management, Coordination, and Review

William R. Bird, retired from Federal Highway Administration – Central Federal Lands Highway Division, Environmental Planning Engineer. Mr. Bird held a B.S. in Civil Engineering. He had 28 years experience, 21 of which involved environmental studies and 7 involved highway engineering.

Jennifer Corwin, Federal Highway Administration – Central Federal Lands Highway Division, Environmental Protection Specialist. Ms. Corwin holds a B.A in Anthropology. She has 10 years experience in environmental studies.

Richard J. Cushing, Federal Highway Administration – Central Federal Lands Highway Division, Environmental Planning Engineer. Mr. Cushing holds a B.S. in Civil Engineering. He has 10 years experience in highway engineering and 10 years experience in environmental studies.

Robert D. Nestel, Federal Highway Administration – Central Federal Lands Highway Division, Environmental Protection Specialist. Mr. Nestel holds an A.B. in Zoology. He has 23 years experience, 13 involving environmental studies.

#### Consultant Study - Team Manager

Katherine B. Creamer, MK Centennial, Consultant Project Manager. Ms. Creamer has 25 years experience in transportation engineering and planning, and environmental studies.

Stephen G. Pouliot, formerly of MK Centennial, Transportation Engineer. Mr. Pouliot holds a B.S. in Civil Engineering and an M.S. in Transportation Engineering. He is a registered Professional Engineer in Colorado. He has 9 years experience in transportation planning and environmental studies.

#### Alignment Studies

Jay Brasher, formerly of MK Centennial, Project Engineer. Mr. Brasher holds a B.S. in Civil Engineering. He is a registered Professional Engineer in Colorado. He has 12 years experience in roadway/highway design.

Stephen C. Chapman, Federal Highway Administration – Central Federal Lands Highway Division, Design Team Leader Project Development. Mr. Chapman holds B.S. and M.S. degrees in Civil Engineering. He has 12 years experience in roadway/highway design.

Craig M. Friesen, MK Centennial, Project Engineer. Mr. Friesen holds a B.S. in Civil Engineering. He is a registered Professional Engineer in Colorado. He has 10 years experience in roadway/highway design.

Paul Talley, formerly with MK Centennial, Project Engineer. Mr. Talley holds a B.S. in Civil Engineering. He has 9 years of experience in roadway/highway design.

Mark Taylor, Federal Highway Administration – Central Federal Lands Highway Division, Design Project Manager. Mr. Taylor holds a B.S. in Civil Engineering. He has more than 23 years experience in roadway/highway design.

### **Traffic Studies/Projections**

Mark D. Bancale, MK Centennial, Transportation Project Engineer. Mr. Bancale holds a B.S. in Civil Engineering. He is a registered Professional Engineer in Colorado. He has 11 years experience in transportation engineering and planning, including 6 years in environmental analysis.

Nicole D. Bauman, MK Centennial, Transportation Planner. Ms. Bauman holds a B.A in Communication. She has 2 years of experience in transportation planning.

Michelle D. McGinn, formerly of MK Centennial, Transportation Engineer. Ms. McGinn holds a B.S. in Civil Engineering. She has 4 years experience in transportation planning, traffic engineering, environmental studies, and noise analysis.

### **Social and Economic Analysis**

Nicole D. Bauman, MK Centennial (experience listed above).

Gail Hermsen, Hermsen Consultants. Ms. Hermsen holds an M.S. in Urban and Regional Planning. She has 20 years experience in social and recreational studies.

Jean Townsend, Coley/Forrest, Inc. Ms. Townsend holds a B.A. and M.A. in Economics. She has over 28 years experience in the natural resources field.

### **Water Quality Analysis**

Leo B. House, United States Geological Survey – Colorado District, Supervisory Hydrologist. Mr. House holds B.S. and M.S. degrees in Civil and Environmental Engineering. He has 22 years experience in water quality analysis.

Robert B. Nestel, Federal Highway Administration – Central Federal Lands Highway Division (experience listed above).

Michael R. Stevens, United States Geological Survey – Colorado District, Hydrologist Project Chief. Mr. Stevens holds a B.S. in Geology and an M.E. in Geological Engineering. He has 11 years experience in water quality analysis.

### **Wildlife**

Timothy G. Baumann, Western Consulting Group, Wildlife Biologist. Mr. Baumann holds a B.S. in Biology and an M.S. in Wildlife Biology. He has 25 years experience in wildlife biology and environmental consulting.

Mary Powell, ERO Resource Corporation, Natural Resource Specialist. Ms. Powell holds a B.A. in Business and Biology and an M.A. in Biology. She has 10 years experience in ecological consulting and research.

## **Threatened, Endangered, and Sensitive Species**

Timothy G. Baumann, Western Consulting Group (experience listed above).

David L. Buckner, ESCO Associates, Inc., Principal. Dr. Buckner holds a B.A. in Environmental Biology, an M.A. in Plant Ecology, and a Ph.D. in Plant Ecology. He has 27 years experience in plant ecology, wetland studies, and environmental consulting.

Mary Powell, ERO Resource Corporation. (see experience listed above).

## **Ecological Assessment**

David L. Buckner, ESCO Associates, Inc. (experience listed above).

## **Historic Resources Survey**

Stephen J. Hallisy, Federal Highway Administration – Central Federal Lands Highway Division, Environmental Protection Specialist. Mr. Hallisy holds a B.A. and an M.A. in Anthropology. He has 32 years experience in environmental studies.

Henry Walt, Independent Consultant. Mr. Walt holds a P.A. in Anthropology, an M.A. in Native American and Pre-Columbian Art History, and a Ph.D. in Native American Art History. He has 22 years experience in cultural studies.

## **Section 4(f) Resources Evaluation**

Stephanie Popiel, Federal Highway Administration – Central Federal Lands Highway Division, Staff Environmental Engineer. Ms. Popiel holds a B.S. in Civil Engineering. She is a registered Professional Engineer in Colorado. She has 10 years experience in transportation engineering, including 6 years in environmental studies.

## **Noise and Vibration Analysis**

Michelle D. McGinn, formerly of MK Centennial (experience listed above).

Jim Stanley, Hankard Environmental, Senior Engineer. Mr. Stanley holds a B.S. in Mechanical Engineering. He has over 8 years of experience in noise and vibration studies.

## **Visual Quality Analysis and Computer Simulations**

Roger Q. Burkart, DHM, Inc. Mr. Burkart holds B.S. and M.S. degrees in Landscape Architecture. He has more than 18 years of project design and management experience, including 8 years as a land planner.

Bruce K. Soehngen, DHM, Inc., Senior Associate Computer Director. Mr. Soehngen holds a B.S. in Landscape Architecture. He has 24 years experience in conceptual design and construction administration.

## **Native American Studies**

Clyde M. Woods, Woods Cultural Research, Inc., Principal Investigator. Dr. Woods Holds an A.A. and B.A. in Social Science, an M.S. in Sociology, and an M.A. and Ph.D. in Anthropology. He has 35 years of experience in paleontology and traditional cultural properties.



## **Report Writers/Editors**

Mark D. Bancale, MK Centennial (experience listed above).

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Jennifer Corwin, Federal Highway Administration (experience listed above).

Nicole D. Bauman, MK Centennial (experience listed above).

Duane J. Cleere, MK Centennial, Transportation Engineer. Mr. Cleere holds a B.S. in Civil Engineering and an MBA. He has 4 years experience in traffic engineering, transportation planning, and environmental studies.

Craig Gaskill, formerly of MK Centennial, Transportation Engineer. Mr. Gaskill holds B.S. and M.S. degrees in Civil Engineering. He is a registered Professional Engineer in Colorado. He has 16 years experience in transportation engineering and planning.

Joseph Gellings, formerly of MK Centennial, Transportation Engineer. Mr. Gellings holds a B.S. in Civil Engineering. He has 5 years experience in transportation planning, traffic engineering, and environmental studies.

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Michelle D. McGinn, formerly of MK Centennial (experience listed above).

Robert D. Nestel, Federal Highway Administration (experience listed above).

Roy A. Plummer III, formerly with MK Centennial, Transportation Engineer. Mr. Plummer holds a B.S. in Civil Engineering. He is a registered Professional Engineer in Colorado. He has 7 years experience in transportation engineering and planning.

Stephanie Popiel, Federal Highway Administration (experience listed above).

Derek L. Richard, MK Centennial, Transportation Engineer. Mr. Richard holds a B.S. in Biology and an M.S. in Environmental Science and Engineering. He has 3 years experience in environmental studies and 1 year of experience in transportation planning.

Barry J. Schulz, formerly with MK Centennial, Senior Transportation Manager. Mr. Schulz holds B.S. and M.S. degrees in Civil Engineering and an MBA. He is a registered Professional Engineer in Colorado. He has 13 years experience in transportation engineering and planning.

Jessica Slaton, formerly of MK Centennial, Transportation Engineer. Ms. Slaton holds a B.S. in Civil Engineering. She has 3 years experience in transportation planning.

Mark Taylor, Federal Highway Administration (experience listed above).

## VI. Availability of Technical Reports

Several sections of the DEIS, SDEIS, and FEIS are summaries of technical memorandums and reports prepared by members of the study team. The detailed technical reports listed below are available for agency and public review upon request from the Federal Highway Administration in Lakewood, Colorado.

### A. DEIS REPORTS

*Reconnaissance and Scoping Report Colorado Forest Highway 80/Guanella Pass Road, Pike and Arapaho National Forests, Park and Clear Creek Counties*, August 1993, prepared by the Federal Highway Administration, Central Federal Lands Highway Division.

*Preliminary Hydrology and Hydraulics Report*, January 1995, prepared by MK Centennial.

*Guanella Pass Road Traffic Study, Origin/Destination Study*, January 30, 1995, prepared by MK Centennial.

*Guanella Pass Road, Forest Highway 80, Design Concept Report*, July 1995, prepared by MK Centennial.

*Guanella Pass Road Traffic Study Parking Survey*, October 12, 1995, prepared by MK Centennial.

*Guanella Pass Road Traffic Study Automatic Traffic Recorder Count Summary*, November 15, 1995, prepared by MK Centennial.

*Guanella Pass Environmental Impact Statement Community Impact Survey Report*, January 23, 1996, prepared by MK Centennial in cooperation with Hermsen Consultants.

*Guanella Pass Visual Inventory and Assessment*, February 1996, prepared by DHM Design Corporation. (Available only at FHWA for review.)

*Georgetown Terminus Options Traffic Study*, April 16, 1996, prepared by MK Centennial.

*Georgetown Bypass Tunnel Colorado Forest Highway 80/Guanella Pass, Colorado*, February 5, 1997, prepared by Woodward-Clyde Consultants. (Available only at FHWA for review.)

*Initial Site Assessment Guanella Pass Road/Clear Creek and Park Counties, Colorado*, February 18, 1997, prepared by Kumar & Associates, Inc. (Available only at FHWA for review.)

*Guanella Pass Road/Colorado Forest Highway 80 Bicycle and Pedestrian Use*, March 1997, prepared by MK Centennial in cooperation with Hermsen Consultants.

*Guanella Pass Road/Colorado Forest Highway 80 Economic Impacts*, March 1997, prepared by MK Centennial in cooperation with Coley/Forrest.

*Guanella Pass Road/Colorado Forest Highway 80 Land Use*, March 1997, prepared by MK Centennial in cooperation with Hermsen Consultants.

*Guanella Pass Road/Colorado Forest Highway 80 Recreation Resources*, March 1997, prepared by MK Centennial in cooperation with Hermsen Consultants.

*Guanella Pass Road/Colorado Forest Highway 80 Social Impacts*, March 1997, prepared by MK Centennial in cooperation with Hermsen Consultants.

*Literature Review and Report of Limited Field Examination Use of Road Salts on Guanella Pass Road*, April 2, 1997, prepared by MK Centennial in cooperation with ESCO Associates, Inc.

*Probable Effects of Road Reconstruction on Willow Communities at the Summit of Guanella Pass*, May 1997, prepared by MK Centennial in cooperation with ESCO Associates, Inc.

*Guanella Pass Road/Colorado Forest Highway 80 Wetland Survey*, September 1997, prepared by MK Centennial in cooperation with ESCO Associates, Inc.

*Guanella Pass Road/Colorado Forest Highway 80 Native American Studies*, October 1997, prepared by MK Centennial in cooperation with Woods Cultural Research, Inc.

*Evaluation of Traffic Volumes During the Peak Leaf Viewing Season along Guanella Pass Road*, November 10, 1997, prepared by MK Centennial.

*Guanella Pass Road/Colorado Forest Highway 80 Life Cycle Analysis*, December 1997, prepared by MK Centennial.

*Guanella Pass Road, Colorado Forest Highway 80, Biological Assessment/Biological Evaluation*, April 1998, prepared by MK Centennial in cooperation with Western Consulting Group and ESCO Associates, Inc.

*An Intensive Cultural Resources Survey along the Guanella Pass Road, Colorado Forest Road 80, Park and Clear Creek Counties, Colorado*, July 15, 1998, prepared by Henry Walt in cooperation with Rocky Mountain Regional Office of the National Park Service.

*Best Management Practices (BMPs)*, September 23, 1998, prepared by FHWA and MK Centennial.

*Guanella Pass Road/Colorado Forest Highway 80 Alternative 5 Environmental Impact Evaluation*, November 1998, prepared by MK Centennial.

## **B. SDEIS REPORTS**

*Addendum to the Guanella Pass Road Colorado Forest Highway 80, Economics Impact Technical Report*, May 2000, prepared by MK Centennial.

*Addendum to the Guanella Pass Road, Life Cycle Cost Analysis*, May 2000, prepared by MK Centennial.

*Addendum to the Guanella Pass Road Traffic Study, Parking Survey*, May 2000, prepared by MK Centennial.

*Winter Closure of Guanella Pass Road*, May 2000, prepared by MK Centennial.

## **C. FEIS REPORTS**

*Evaluation of Biological Data, Guanella Pass Area, Clear Creek and Park Counties Colorado, Water Years 1995-97*, Open-File Report 00-54, 2000, prepared by U.S. Department of Interior, U.S. Geological Survey. (Available only at FHWA for review.)

*Assessment of Water Quality, Road Runoff, and Bulk Atmospheric Deposition, Guanella Pass Area, Clear Creek and Park Counties, Colorado, Water Years 1995-1997*, Water Resources Investigations Report 00-4186, 2001, prepared by U.S. Department of the Interior, U.S. Geological Survey. (Available only at FHWA for review.)

*Geotechnical Investigation, Guanella Pass Road, Clear Creek and Park Counties, Colorado*, January 2001, prepared by URS Corporation. (Available only at FHWA for review.)

*Addendum to Biological Assessment/Biological Evaluation, A Review of Plant Species for the Proposed Duck Lake Materials Source Site, Guanella Pass Road, Colorado Forest Highway 80*, February 2001, prepared by ESCO Associates, Inc.

*Guanella Pass Materials Investigation CO PFH 80-1(0) Geotechnical Report, Report #CO-FX-0080-01-01*, August 2001, FHWA. (Available only at FHWA for review.)

*Nondestructive Testing Investigation Vibration/Noise Measurement Study: Construction Traffic Through Historic District, Georgetown, Colorado*, October 2001, prepared by Olson Engineering.

*Sedimentation Problems Identified on the Guanella Pass Road, Aquatic and Soil Resource Recommendations*, October, 25, 2001, prepared by the Arapaho and Roosevelt National Forests.

*Construction Noise Report for the Guanella Pass Road Improvement Project*, November 2001, prepared by Hankard Environmental.

*Colorado Forest Highway 80, Guanella Pass Road Phase 2 Investigation*, December 2001, prepared by Foster Wheeler Environmental Corporation. (Available only at FHWA for review.)

*Hydrologic, Water-Quality, Sediment Transport and Bulk Atmospheric-Deposition Data, Guanella Pass Area, Colorado, October 1, 1994, through September 30, 1997*, Open-File Report 00-82, 2002, prepared by U.S. Department of Interior, U.S. Geological Survey. (Available only at FHWA for review.)

*A Second Addendum to An Intensive Cultural Resources Survey, Along the Guanella Pass Road, Colorado Forest Highway 80, Park and Clear Creek Counties, Colorado*, February 2002, prepared by the Federal Highway Administration.

***Fisheries Assessment for the Proposed Guanella Pass Road Improvement Project***, February 2002, prepared by Western Consulting Group.

***Biological Assessment, Guanella Pass Road (Colorado Forest Highway 80)***, March 1, 2002, prepared by Western Consulting Group and the Federal Highway Administration.

***Revised Wetland Survey, Guanella Pass Road Technical Report***, June 2002, prepared by MK Centennial.

***Biological Report, Guanella Pass Road (Colorado Forest Highway 80)***, July 2002, prepared by Western Consulting Group and the Federal Highway Administration.

***Supplemental Biology Report, Proposed Guanella Pass Parking Lots, Colorado Forest Highway 80, Clear Creek County and Park County, Colorado***, September 2002, prepared by ERO Resources Corporation.

***Biology Report, Proposed Guanella Pass, Georgetown Haul Road, Clear Creek County, Colorado***, September 2002, prepared by ERO Resources Corporation.

***Guanella Pass Road Incident and Crash Data***, September 2002, prepared by MK Centennial.

***Guanella Pass Road Traffic Study Traffic Volume Projections***, September 2002, prepared by MK Centennial.

***Lifecycle Cost Analysis of Alternative Surface Types***, September 2002, prepared by MK Centennial.

***Supplemental Guanella Pass Road Economic Impacts***, September 2002, prepared by MK Centennial.

***Supplemental Guanella Pass Road Highway 80 Services Technical Memorandum***, September 2002, prepared by MK Centennial.

## D. REPORT LOCATIONS

Copies of these reports are included as an appendix to this document 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 6<sup>th</sup> Street  
Georgetown, Colorado

Clear Creek County  
405 Argentine Street  
Georgetown, Colorado

Denver Public Library  
10 West 14<sup>th</sup> 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  
350 Bulldogger Road  
Bailey, Colorado

Park County Clerk and Recorder  
501 Main Street  
Fairplay, Colorado

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## VII. Project Coordination

### A. Project Coordination Chronology and History

Throughout the development of this project, public meetings were held for the purpose of informing/updating the public and soliciting public input on the project. The meetings were held in different locations to make it convenient for the greatest number of citizens to attend without having to travel great distances. These meetings were very well attended.

Because the public expressed a need to explore other alternatives for the project, town meetings were held in several locations. Work groups were then formed to discuss other options and address concerns of the local agencies and the public. Copies of all written agency correspondence is included in **Appendix A: Correspondence**.

Following is a chronology of the Guanella Pass Road coordination meetings. Copies of the minutes of these meetings are available for review at the locations listed at the end of **Chapter VI: Availability of Technical Reports**.

March 1991	A Preliminary Study Report was prepared addressing Guanella Pass Road and including information about the feasibility of reconstructing the roadway, route location alternatives, recommended standards, and anticipated problems.
March 1992	Guanella Pass Road was recommended for reconnaissance and scoping at the Colorado PLH program meeting. An interagency reconnaissance team was designated which included members from the FS, Park County, Clear Creek County, and the FHWA. CDOT was not represented.
September 15, 1992	Reconnaissance team field review
February 1993	Decision by the PLH agencies (which included FHWA, the USFS, and CDOT) to include Guanella Pass Road in the Colorado PLH program for improvements
August 1993	Guanella Pass Road Reconnaissance and Scoping Report published by the FHWA
October 25, 1993	First meeting of the Social, Economic and Environmental (SEE) Team (FHWA, USFS, Clear Creek County, Park County, and CDOT)
December 1, 1993	Interagency meeting (FHWA, Park County, Clear Creek County, Georgetown, FS, CDOT, USACE, CDOW, Historic Georgetown), Georgetown, CO
January 13, 1994	Interagency scoping meeting (FHWA, Public Service Co.), Georgetown, CO
January 19, 1994	Public scoping meeting, Shawnee, CO
January 20, 1994	Public scoping meeting, Georgetown, CO
January 31, 1994	Winter Maintenance Field Trip (FHWA, Clear Creek County, Park County)



February 10, 1994 Interagency scoping meeting (FHWA, Upper Clear Creek Watershed Association), Idaho Springs, CO

February 14, 1994 Interagency scoping meeting (FHWA, Clear Creek County Economic Development Corporation), Idaho Springs, CO

February 16, 1994 Interagency scoping meeting (FHWA, Georgetown Planning Board), Georgetown, CO

February 16, 1994 Interagency scoping meeting (FHWA, Clear Creek County Planning Board), Georgetown, CO

February 22, 1994 Interagency scoping meeting (FHWA, Park County Planning Commission), Fairplay, CO

March 8, 1994 Interagency water quality scoping meeting (FHWA, USGS, Georgetown, Public Service Co., Georgetown League of Women Voters), Georgetown, CO

March 10, 1994 Interagency water quality scoping meeting (FHWA, USGS, Georgetown, Public Service Co., Denver Water Board, FS, Park County, Clear Creek County, Park County Advisory Board on the Environment, Colorado Division of Water Resources, Colorado Department of Health), Lakewood, CO

March 11, 1994 Interagency forest planning scoping meeting (FHWA, FS, CDOT, Clear Creek County), Lakewood, CO

March 28, 1994 Interagency natural resources scoping meeting (FHWA, FS, EPA, USGS, CDOW, CDOT, Clear Creek County, Park County Advisory Board on the Environment), Lakewood, CO

April 4, 1994 Interagency cultural resources scoping meeting (FHWA, National Park Service, Park County, Clear Creek County, FS, Public Service Co., Historic Georgetown, Georgetown Planning Commission, People for Silver Plume, Colorado Historical Society), Morrison, CO

April 11, 1994 Second SEE Team meeting, Fairplay, CO

May 5, 1994 Third SEE Team meeting, Fairplay, CO

May 1994 Newsletter mailed to public

September 14 and 15, 1994 Initial detailed field walk-through

November 14, 1994 EIS kick-off meeting with FHWA and consulting team, Lakewood, CO

December 12, 1994 Interagency meeting to discuss wildlife issues (FHWA, USFWS), Denver, CO

December 13, 1994 Interagency meeting to discuss wildlife issues (FHWA, CDOW), Denver, CO

January 25, 1995 Public design workshop, Georgetown, CO

March 23, 1995 Public informational open house, Shawnee, CO

April 12, 1995 Meeting with Platte Canyon Area Chamber of Commerce, Pine Junction, CO

May 3, 1995 Meeting with Georgetown Chamber of Commerce, Georgetown, CO

June 12, 1995 Interagency meeting to discuss Scenic Byway Management Plan and forest resource issues (FHWA, FS), Idaho Springs, CO

July 1995 Newsletter mailed to public

August 2 and 3, 1995 Interagency preliminary line and grade field walk-through

August 15, 1995 Interagency meeting to discuss Georgetown terminus options (FHWA, Georgetown Planning Commission, Georgetown Board of Selectmen, Clear Creek County Commissioners), Georgetown, CO

October 31, 1995 Interagency field visit to discuss wetlands (FHWA, USACE)

December 18, 1995 Interagency meeting to discuss the USFS Scenic Byway Management Plan (FHWA, FS), Morrison, CO

June 3, 1996 Interagency project development and update meeting (FHWA, FS, Park County, Clear Creek County), Bailey, Colorado

July 10, 1996 Public informational open house, Shawnee, Colorado

July 11, 1996 Public informational open house, Georgetown, Colorado

October 8, 1996 Interagency cultural resources update meeting (FHWA, Clear Creek County, National Park Service, Historic Georgetown, FS, Colorado Historical Society, State Historic Preservation Office), Georgetown, CO

October 30, 1996 Interagency meeting (FHWA, Georgetown Planning Commission), Georgetown, CO

March 11, 1997 Notice of intent to prepare environmental impact statement printed in the Federal Register (Vol. 62, Num. 47)

July 9, 1997 Site Visit and Area Reconnaissance - Native American Studies

July 31, 1997 Interagency meeting (FHWA, USACE, FS) Lakewood, CO

September 9, 1997 Field Survey - Wetland mitigation sites (FHWA, FS, USACE)

October 14 and 15, 1997 Intermediate design field walk-through - including review of environmental issues

April 13, 1998 Interagency meeting to discuss the BA/BE and the Biology Report (FHWA, FS), Lakewood, CO

May 4, 1998 Interagency Preliminary DEIS review meeting (FHWA, FS, USACE, Clear Creek County, Park County, City of Georgetown) Lakewood, CO

October 24, 1998 Interagency Preliminary DEIS review meeting (FHWA, FS, USACE, Clear Creek County, Park County, City of Georgetown) Lakewood, CO

February 18, 1999 USFS meeting to discuss water quality issues and USFS comments (FHWA, FS) Lakewood, CO

June 11, 1999 DEIS Published

August 4, 1999 Public Hearing, Lakewood, Colorado

August 5, 1999 Public Hearing, Shawnee, Colorado

August 6, 1999 Public Hearing, Georgetown, Colorado

August 20, 1999 Clear Creek County Meeting on Guanella Pass Road (held by commissioners), Idaho Springs, Colorado

August 25, 1999 Park County Meeting on Guanella Pass Road (held by commissioners), Bailey, Colorado

September 16, 1999 Town Meeting on Guanella Pass Road, Empire, Colorado

September 20, 1999 Town Meeting on Guanella Pass Road, Idaho Springs, Colorado

September 21, 1999 Meeting with FS, FS office in Lakewood, Colorado

September 22, 1999 Eastern Clear Creek County Community Meeting on Guanella Pass Road, Evergreen, Colorado

September 24, 1999 Field Review with Sierra Club

September 27, 1999 City Council Meeting with Guanella Pass Road on agenda, Silver Plume, Colorado

September 29, 1999 Clear Creek County Commissioners Meeting: To get input based on the 4 meetings held on 9/16/99, 9/20/99, and 9/27/99

October 15, 1999 Field Review with representatives from Senator Wayne Allard's offices.

November 10, 1999 Meeting with FHWA with FS, CDOT, mainly discussed typical section

January 21, 2000 Meeting at Best Western (FS, CDOT) (facilitated)

February 9, 2000 Meeting in Georgetown, Colorado (Clear creek County, Town of Georgetown) on how to proceed.

February 28, 2000 Meeting with Park County in Fairplay, Colorado how to proceed.

March 2, 2000 Meeting in Georgetown, Colorado (Clear Creek County, Town of Georgetown, CDOT, FS)

April 3, 2000 Work Group Meeting (Clear Creek County, CDOT, FS, Town of Georgetown, Park County) Georgetown, Colorado

April 24, 2000 Work Group Meeting (clear Creek County, CDOT, FS, Town of Georgetown), Georgetown, Colorado

April 25, 2000 Work Group Meeting (Park County, CDOT, FS), Bailey, Colorado

May 8, 2000 Work Group Meeting (Clear Creek County, CDOT, FS, Town of Georgetown, Park County), Georgetown, Colorado

May 22, 2000 Meeting with Park County and Jim Gordon at Tumbling River Ranch

May 25, 2000 Meeting with Sierra Club in Denver, Colorado

June 14, 2000 Meeting with Sierra Club in Denver, Colorado

July 6, 2000 Meeting with Sierra Club in Denver, Colorado

July 28, 2000 Meeting with Jim Keeley and Jim Gordon at Tumbling River Ranch

September 18, 2000 Interagency Meeting on SDEIS

August 18, 2000	Meeting with Mark Taylor, Rick Peters, Steve Boch, Jim Keeley and Jim Gordon at Tumbling River Ranch
October 10, 2000	Meeting with Jim Keeley, Steve Boch, Jim Gordon, Scott Dugan, and Rick Peters at Tumbling River Ranch
November 8, 2000	SDEIS Published
December 4, 2000	Park County Public Hearing on SDEIS
December 5, 2000	Georgetown Public Hearing on SDEIS
December 6, 2000	FHWA Public Hearing on SDEIS
December 7, 2000	Clear Creek County Public Hearing on SDEIS
February 12, 2001	Interagency Meeting reviewing comments on SDEIS
May 22, 2001	Meeting with Georgetown Selectmen
June 11, 2001	Test Strip Preconstruction Meeting with Georgetown Officials
June 22, 2001 through August 10, 2001	Weekly progress meetings with Georgetown Officials regarding test strips
June 15, 2001	Meeting with Georgetown officials and public regarding test strips
June 22, 2001	Field Review with Georgetown Officials
September 25, 2001	Meeting with Georgetown Selectmen
October 22, 2001	Meeting with Dee Geisness regarding construction bypass
October 29, 2001	Interagency Meeting in Denver
November 8, 2001	Meeting with agencies in Denver
January 4, 2002	Field Review with FS and Georgetown
January 22, 2002	Meeting with FS regarding surface types
February 20, 2002	Interagency Meeting in Littleton
March 4, 2002	Field Review of Construction Hauling Mitigation in Georgetown
March 7, 2002	Field Review/Cultural Resources Surveys of Construction Hauling Mitigation in Georgetown
March 18, 2002	Interagency Meeting to discuss Preliminary FEIS
March 19, 2002	Meeting between FHWA, FS, and Park County regarding surface types
April 9, 2002	Meeting with FS on BR
April 12, 2002	Meeting among FHWA, FS, and Park County regarding surface types

May 29, 2002

Field Review of Sediment and Erosion Problems with FS

June 27, 2002

Field Review of Wetland Impacts and Mitigation with EPA and USACE

## **B. Correspondence**

A considerable amount of correspondence has been received by the FHWA on this project. Appendix A contains copies of letters representative of the correspondence that contained substantive comments on the proposal. The issues raised in these letters have been addressed in this FEIS.

# VIII. Index

The topics listed in this index are only the major subject matters. Page citations are referenced to sections with major discussion of the respective topic. If the topic is discussed on two or more pages in a row, only the first page is cited.

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**APPENDIX D: LOCATIONS OF SPECIAL CROSS SECTIONS**

**APPENDIX E: MAILING LIST**



**APPENDIX A:**  
**INTERAGENCY CORRESPONDENCE**

Appendix A contains copies of interagency correspondence regarding the Guanella Pass Road Improvement Project.

# Appendix A – Correspondence Letter Index

<u>Date Sent</u>	<u>Page</u>	<u>Sender</u>	<u>Agency</u>	<u>Recipient</u>	<u>Agency</u>	<u>General Subject</u>
08/15/2002	A-1	Nancy Kochan	ACHP	John Knowles	FHWA	Adverse Affects
08/13/2002	A-2	Lynn Granger	GT	Don L. Klima	ACHP	Project Impacts
08/08/2002	A-3	John Knowles	FHWA	Don L. Klima	ACHP	Adverse Affect Finding
08/07/2002	A-7	Mark Wolfe for Georgianna Contiguglia	CHS	Stephen Hallisy	FHWA	MOA
08/01/2002	A-8	Thomas Puto for John Knowles	FHWA	Georgianna Contiguglia	CHS	Haul Route
07/18/2002	A-9	Robert Nestel	FHWA	File	FHWA	TES Species
07/12/2002	A-11	Joe L. Meade	USFS	Phil Hegeman	CDPHE	Geneva Creek 303(d) List
07/10/2002	A-12	John Knowles	FHWA	Georgianna Contiguglia	CHS	Project Impacts
06/13/2002	A-13	FHWA		FHWA		Telephone Log
06/11/2002	A-15	John Knowles	FHWA	Georgianna Contiguglia	CHS	Haul Route
06/11/2002	A-16	Mark Wolfe for Georgianna Contiguglia	CHS	John Knowles	FHWA	Project Impacts
05/31/2002	A-18	Cynthia Neely	GT	Georgianna Contiguglia	CHS	Project Impacts
04/15/2002	A-19	John Knowles	FHWA	Kurt Broderdorp	USFWS	Biological Assessment
03/25/2002	A-20	James W. Keeley	FHWA	Koleen Brooks	GT	Letter Response
03/18/2002	A-23	Edna Frost	SUIT	John Knowles	FHWA	Project Impacts
03/08/2002	A-24	John Knowles	FHWA	Lisa Wegman-French	NPS	Project Impacts
03/08/2002	A-25	John Knowles	FHWA	Koleen Brooks	GT	Project Impacts
03/06/2002	A-27	John Knowles	FHWA	Indian Tribes		Project Impacts
03/06/2002	A-31	John Knowles	FHWA	Georgianna Contiguglia	CHS	Project Impacts
03/01/2002	A-33	Gary Strike for John Knowles	FHWA	Kurt Broderdorp	USFWS	Biological Assessment
02/28/2002	A-34	PCC		Larry Smith	FHWA	Surface Types
02/27/2002	A-36	Allen E. Kane	USFS	Stephen Hallisy	FHWA	Project Impacts
02/04/2002	A-38	Koleen Brooks	GT	Jim Keeley	FHWA	Georgetown Concerns
01/17/2002	A-40	CCCC		Larry Smith	FHWA	CCCC Project Support
12/21/2001	A-42	USFS		Larry Smith	FHWA	Road Surfacing Issues
10/25/2001	A-44	Koleen Brooks	GT	James W. Keeley	FHWA	Project Concerns
06/19/2001	A-45	James W. Keeley for Larry C. Smith	FHWA	Glenda Wilson	USFS	Highway Funds Q&A
06/14/2001	A-48	John C. Stites	FHWA	Paul McKenna	GT	Legal Issues Q&A
06/05/2001	A-49	Heidi S. Hirsbrunner for James W. Keeley	FHWA	General Public Notice		Guanella Pass Test Strips
05/24/2001	A-51	John Knowles	FHWA	General Agency Notice		Geotech. Work Notice
05/15/2001	A-53	Larry C. Smith	FHWA	Glenda L. Wilson	USFS	CMS Issues
04/25/2001	A-55	Richard Cushing	FHWA	General Public Notice		SDEIS Comments Report
04/18/2001	A-56	PCC		James W. Keeley	FHWA	Project Support
04/13/2001	A-57	Paul E. McKenna	GT	Larry C. Smith	FHWA	Easement Denial
04/13/2001	A-58	FHWA		Koleen Brooks	GT	Temporary Permit
04/12/2001	A-59	Glenda L. Wilson	USFS	Larry Smith	FHWA	Corridor Mgmt. Strategy
04/12/2001	A-60	USFS		Larry Smith	FHWA	Corridor Mgmt. Strategy
03/30/2001	A-62	Lee Behrens	GSPHDPCLC	Georgetown Selectmen		Silverdale Easement
03/30/2001	A-64	James W. Keeley	FHWA	Jerry Solberg		Project Q&A
03/26/2001	A-68	(Unintelligible) for Willie R. Taylor	USDOI	James W. Keeley	FHWA	SDEIS Comments
03/26/2001	A-69	Richard J. Cushing	FHWA	Georgianna Contiguglia	CHS	Meeting Overview
03/22/2001	A-73	Lysa Wegman-French	USDOI	Steve Hallisy	FHWA	DEIS/SDEIS Comments
03/20/2001	A-74	Larry C. Smith	FHWA	Ben Nighthorse Campbell	USS	Constituent Concerns
03/13/2001	A-76	Gerald Cookson	GT	FHWA, USFS, CCCC		GT Selectmen Concerns
02/15/2001	A-77	Larry C. Smith	FHWA	Ben Nighthorse Campbell	USS	Constituent Concerns
02/08/2001	A-79	Larry C. Smith	FHWA	Ben Nighthorse Campbell	USS	Constituent Concerns
02/06/2001	A-81	Ben Nighthorse Campbell	USS	Larry Smith	FHWA	Constituent Concerns
01/31/2001	A-82	Mark Wolfe for Georgianna Contiguglia	CHS	Richard Cushing	FHWA	Project Comments
01/31/2001	A-83	Richard J. Cushing for James W. Keeley	FHWA	William H. Nevius	PC	Letter Response
01/17/2001	A-85	Margaret J. Lomax	FHWA	Pam Wohler, Assistant	USS	Constituent Concerns
01/16/2001	A-86	Cynthia Cody	EPA-NEPA	Richard Cushing	FHWA	SDEIS Document
01/09/2001	A-88	Larry C. Smith	FHWA	Mark Udall	USHR	SDEIS Comment Ext.
01/08/2001	A-90	James W. Keeley for Richard J. Cushing	FHWA	General Public Notice		SDEIS Comment Ext.
01/04/2001	A-91	Richard J. Cushing	FHWA	EPA – NEPA		SDEIS Comment Ext.
01/02/2001	A-92	Ben Nighthorse Campbell	USS	Kenneth R. Wykle	FHWA	Constituent Concerns
12/28/2000	A-97	Mark Udall	USHR	Larry Smith	FHWA	SDEIS Comment Ext.
12/22/2000	A-98	Scott Hoover	CDOW	Richard Cushing	FHWA	SDEIS Comments
12/19/2000	A-101	Ben Nighthorse Campbell	USS	Kenneth R. Wykle	FHWA	Constituent Concerns
12/04/2000	A-102	Hugh M. Davidson	CDPHE	Robert Vance	PCRB	Guanella Pass Road Dust
11/15/2000	A-103	James W. Keeley	FHWA	General Public Notice		SDEIS Distribution
09/19/2000	A-105	James W. Keeley	FHWA	General Public Notice		Test Strips Delay Notice
08/09/2000	A-106	James W. Keeley	FHWA	General Public Notice		SDEIS Delay Notice
07/11/2000	A-107	James W. Keeley	FHWA	Roland McCook	UIT	Requested Documents
06/09/2000	A-109	Lyn Yarroll	MEGSC	Bob Nestel	FHWA	Project Comments
12/21/1999	A-111	Larry C. Smith	FHWA	Mark Udall	USHR	Constituent Concerns
12/10/1999	A-112	Larry C. Smith	FHWA	Georgianna Contiguglia	CHS	Project Impacts
11/10/1999	A-113	Mark Udall	USHR	Larry Miller	FHWA	Constituent Concerns
10/28/1999	A-115	Allen E. Kane	USFS	Larry C. Smith	FHWA	Project Impacts
10/20/1999	A-116	James W. Keeley for Larry C. Smith	FHWA	Bill Bass	USFS	Project Impacts
10/15/1999	A-117	Dave Weber	CDOW	Richard Cushing	FHWA	DEIS Comments
10/13/1999	A-120	CCCC		Richard Cushing	FHWA	DEIS Comments

<u>Date Sent</u>	<u>Page</u>	<u>Sender</u>	<u>Agency</u>	<u>Recipient</u>	<u>Agency</u>	<u>General Subject</u>
10/12/1999	A-122	Ronald J Neely	HGI	Richard Cushing	FHWA	DEIS Comments
10/07/1999	A-124	Cynthia Cody	EPA-NEPA	Richard Cushing	FHWA	DEIS Comments
09/07/1999	A-130	CJ DeLange	PCC	Mark Udall	USHR	General Comments
08/31/1999	A-132	CJ DeLange	PC	Park County Residents		Project Opinions
08/26/1999	A-133	James W. Keeley	FHWA	General Public Notice		DEIS General Notice
08/24/1999	A-134	James W. Keeley	FHWA	EPA – NEPA		DEIS Comment Ext.
08/24/1999	A-135	James W. Keeley	FHWA	General Public Notice		DEIS Comment Ext.
08/23/1999	A-136	CCCC		Larry Smith	FHWA	DEIS Comment Ext.
08/19/1999	A-137	Willie R. Taylor	USDOJ	James Daves	FHWA	DEIS Comments
08/17/1999	A-139	Mark Udall	USHR	Kenneth Wykle	FHWA	Agency Action Concerns
08/16/1999	A-141	Larry C. Smith	FHWA	Mark Udall	USHR	Letter Response
08/11/1999	A-143	Janet Claus	GT	CCCC		Georgetown Position
08/10/1999	A-144	LeRoy W. Carlson	USDOJ	James W. Keeley	FHWA	Lynx Decision
07/29/1999	A-145	Mark Udall	USHR	James Daves	FHWA	Public Involvement
07/07/1999	A-146	James W. Keeley	FHWA	General Public Notice		Public Hearing Notice
07/07/1999	A-148	James W. Keeley	FHWA	EPA – NEPA		DEIS
07/01/1999	A-150	Georgianna Contiguglia	CHS	Stephen Hallisy	FHWA	Project Impacts
05/25/1999	A-152	(Unint.) for Georgianna Contiguglia	CHS	Stephen Hallisy	FHWA	Determ. of Eligibility
05/13/1999	A-154	(Unintelligible) for Anthony R. Kane	FHWA	FHWA Staff	FHWA	Context Sensitive Design
05/03/1999	A-156	James W. Keeley	FHWA	Clay Ronish	USFWS	Lynx Status Change
04/02/1999	A-157	(Unintelligible) for Allen E. Kane	USFS	Steve Hallisy	FHWA	Resource Evaluations
03/25/1999	A-159	Dennis G. Lowry	USFS	Jim Cuthbertson	USFS	BA/BE Signatures
02/27/1999	A-161	Design Review Commission	GT	Cathy Watson	GT	Cultural Resources
02/22/1999	A-164	(Unint.) for Georgianna Contiguglia	CHS	James W. Keeley	FHWA	Resource Evaluations
02/03/1999	A-167	James W. Keeley	FHWA	Cathy Watson	GT	Cultural Resources
02/03/1999	A-170	James W. Keeley	FHWA	James E. Hartman	CHS	Cultural Resources
02/03/1999	A-173	James W. Keeley	FHWA	Jim Cuthbertson	USFS	Cultural Resources
08/18/1998	A-176	Rex Fletcher	USACE	Robert Nestel	FHWA	Wetland Delineation
06/19/1998	A-177	LeRoy W. Carlson	USDOJ	James W. Keeley	FHWA	T&E Species Concerns
03/11/1998	A-179	Janet Claus	GT	CCCC		General Project Concerns
10/22/1997	A-181	(Unintelligible) for James E. Hartmann	CHS	Larry D. Henry	FHWA	Cultural Res. Report
05/12/1997	A-183	Clyde M. Woods	WCRI	General Notice		Native American Studies
03/04/1997	A-187	Larry D. Henry	FHWA	Federal Register Copy		EIS Notice of Intent
02/11/1997	A-188	Phil Clark	GT	CCCC		General Project Concerns
09/04/1996	A-190	Jean C. Smith	UASPP	Bill Bird	FHWA	Project Comments
12/07/1995	A-197	LeRoy W. Carlson	USDOJ	Larry C. Smith	FHWA	USDOJ Participation
06/15/1995	A-198	J. William Geise, Jr.	EPA	Bill Bird	FHWA	EPA Participation
06/02/1995	A-199	Wm. J. Gournay	USFS	Larry C. Smith	FHWA	USFS Participation
05/26/1995	A-200	Candace Thomas for Richard D. Gorton	USACE	Bill Bird	FHWA	COE Participation
05/25/1995	A-201	William R. Bird	FHWA	File	FHWA	CDOW Participation
05/25/1995	A-202	(Unintelligible) for John M. Unbewust	CDOT	Larry C. Smith	FHWA	CDOT Participation
05/11/1995	A-203	Larry D. Henry for Larry C. Smith	FHWA	William J. Gournay	USFS	Project Development
03/13/1995	A-205	PCRB		General Agency Notice		Maintenance Notice
04/15/1994	A-206	H. Benjamin Duke III	CHS	Richard J. Cushing	FHWA	General Project Concerns
03/02/1994	A-208	Dave Weber	CDOW	Robert Nestel	FHWA	T&E Species Information
11/22/1993	A-210	LeRoy W. Carlson	USDOJ	Jerry L. Budwig	FHWA	T&E Species Concerns
01/11/1990	A-212	Jerry B. Buckley	GT	CCCC		Project Support

Legend

ACHP	Advisory Council on Historic Preservation
CCCC	Clear Creek County Commissioners
CDOW	Colorado Division of Wildlife
CDPHE	Colorado Department of Public Health and Environment
CHS	Colorado Historical Society
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
GSPHDPLC	Georgetown Silver Plume Historic District Public Lands Commission
GT	Town of Georgetown
HGI	Historic Georgetown, Inc.
MEGSC	Mount Evans Group of the Sierra Club
NPS	National Park Service
PC	Private Citizen
PCC	Park County Commissioners
PCRB	Park County Road and Bridge
SUIT	Southern Ute Indian Tribe
UASPP	Upper Arkansas and South Platte Project
UIT	Ute Indian Tribe
USACE	United States Army Corps of Engineers
USDOJ	United States Department of the Interior
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USHR	United States House of Representatives
USS	United States Senate
WCRI	Woods Cultural Research, Inc.



August 15, 2002

John Knowles  
Project Manager  
Federal Highway Administration  
555 Zang Street, Room 259  
Lakewood, CO 80228

RE: *Improvements to FH 80, Guanella Pass Road, CO., HFD-6.*

Dear Mr. Knowles:

On August 12, 2002, we received your notification and supporting documentation regarding the adverse effects of the referenced project, a property eligible for inclusion in the National Register of Historic Places. Based upon the information you provided, we do not believe that our participation in consultation to resolve adverse effects is needed. However, should circumstances change, please notify us so we can re-evaluate if our participation is required. Pursuant to 36 CFR 800.6(b)(iv), you will need to file the Memorandum of Agreement, and related documentation at the conclusion of the consultation process. The filing of this Agreement with the Council is necessary to complete the requirements of Section 106 of the National Historic Preservation Act.

Thank you for providing us with your notification of adverse effect. If you have any questions, please contact Jane Crisler at 303/969-5110 or via eMail at [jcrisler@achp.gov](mailto:jcrisler@achp.gov).

Sincerely,

Nancy Kochan  
Office Administrator/Technician  
Western Office of Federal  
Agency Programs

ADVISORY COUNCIL ON HISTORIC PRESERVATION

12136 West Bayaud Avenue, Suite 330 • Lakewood, Colorado 80228  
Phone: 303-969-5110 • Fax: 303-969-5115 • [achp@achp.gov](mailto:achp@achp.gov) • [www.achp.gov](http://www.achp.gov)

# The Town of Georgetown

P.O. Box 426  
Georgetown, Colorado 80444  
(303) 569-2555

Mr. Don L. Klima, Director  
Office of Planning and Review  
Advisory Council on Historic Preservation  
12136 West Bayaud  
Lakewood, CO 80228

August 13, 2002

Dear Mr. Klima:

Subject: Colorado Forest Highway (FH) 80, Guanella Pass Road


The Town of Georgetown, as the Certified Local Government (CLG) within the Georgetown Silver Plume National Historic Landmark District, has received and reviewed the correspondence dated Aug 8, 2002 from John Knowles, Project Manager for the FHWA, Central Federal Lands Highway Division. The Town concurs with the finding of an adverse affect for the Georgetown Silver Plume National Historic Landmark District (5CC3), and, the Colorado Central Railroad Grade (Site 5CC3.1/5CC9). As the CLG, we would request consideration of the following comments:

1. Although the proposed temporary construction bypass bridge must be included in the Environmental Impact Statement because it has been considered as a possibility, it is the understanding of the Town of Georgetown that, for practical purposes, this option has been dropped. The Town supports that decision. The local property owner is unwilling to grant an easement and we have been informed by the FHWA that the elimination of this option will eliminate all blasting within the Landmark District. The Town is opposed to the blasting and subsequent "staining" of rock within the District. Dropping this option also eliminates the impact to Site 5CC3.1/5CC9.

2. In reference to mitigation for impacts on the District (5CC3), the Town was informed previously by the FHWA the only guardwalls constructed with a natural stone face would be used within the Landmark District. There would be no guardrail. It was further discussed and agreed that retaining walls for cut slopes would be dry-stack natural rock in keeping with the numerous historic rock walls within the District. The materials of the retaining walls for fill slopes is under discussion. The CLG does not favor concrete form liners, but does support dry-stack or stone facade-mortared rock. All of these alternatives are included within the FEIS. Georgetown as the CLG, is requesting your support for these options.

Other final issues include the surfacing of the drainage way along the road and the impacts of five years of construction on the resources of the District. These issues are under discussion with the FHWA. Guanella Pass Road currently adversely affects Georgetown and its historic structures by inappropriate drainage control. The Town is looking forward to a project which will ultimately enhance the National Landmark District.

Sincerely,

  
Lynn Granger  
Police Judge

CC: John Knowles, FHWA, Project Manager



AUG 08 2002

Refer to: HFHD-16

Mr. Don L. Klima, Director  
Office of Planning and Review  
Advisory Council on Historic Preservation  
12136 West Bayaud  
Lakewood, CO 80228

Dear Mr. Klima:

Subject: Colorado Forest Highway (FH) 80, Guanella Pass Road

In accordance with 36 CFR 800.6(a)(1), we are providing you with notification of an adverse affect finding for the Georgetown-Silver Plume National Historic Landmark District (5CC3), and, the Colorado Central Railroad Grade (Site 5CC3.1/5CC9). The following information is provided pursuant to 36 CFR 800.11(e):

1. **Project description:** the proposed improvement consists of the reconstruction and rehabilitation of FH 80 beginning at Grant, Colorado and extending 38.2 kilometers (23.6 miles) to Georgetown, Colorado (see enclosed maps). Improvements under the build alternatives lie primarily within the existing Guanella Pass Road corridor. The alternatives presently under consideration include 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. The roadway will be surfaced with either asphalt pavement, gravel, or a stabilized alternative surface type. Major construction items will include clearing and grading, slope and subgrade stabilization, drainage improvements, retaining walls, revegetation, pavement of crushed aggregate base and asphalt pavement, signs, striping, guard rail, and other safety related features necessary to meet current design practice. Funding for the improvement of Forest Highways is provided through the Highway Trust fund by the Public Lands Highways, Forest Highway Program (FHP). Administration of the FHP is by a tri-agency group consisting of the Federal Highway Administration (FHWA), the US Forest Service, and the Colorado Department of Transportation. The tri-agency group has designated the FHWA as the lead agency responsible for project development, environmental clearances, and project construction. The programming agencies meet annually to prioritize and place projects in the program and FH 80 has been programmed for construction in FY 2003.



The project area of potential effects for Site 5CC3 extends from the northern terminus of FH 80 at Rose Street and 2nd Street in Georgetown to the 4th switchback on Leavenworth Mountain (Station 38000 to 39000; see Figure I-2). The area of potential effects for Site 5CC3.1/5CC9 is delineated on the enclosed plan sheet for the Georgetown temporary construction traffic bypass bridge.

2. *Steps taken for the subject undertaking to identify historic properties:* are documented in the enclosed copies of the cultural resource inventory report and correspondence with the Colorado SHPO, the USDA Forest Service, and Georgetown, Colorado (Certified local government).
3. *Description of affected historic properties:*

#### **Georgetown-Silver Plume National Historic Landmark District (GSPNHLD - Site 5CC3)**

This 1,331 hectares (3,288 acres) historic district includes the towns of Georgetown and Silver Plume, as well as the valley between the two communities (Figure I-2). The communities in the district grew and flourished first as a mining region and later as a recreational center for the people of Denver. In 1858 the discovery of gold along the South Platte River quickly led to prospecting along Clear Creek and the gold rush of 1859. That same year, the brothers George and David Griffith staked a claim at the future site of Georgetown. The Griffith lode led to the founding of 'George's Town'. At its zenith from 1867 to 1876, Georgetown was dubbed the "Silver Queen of the Rockies". The population grew to 5,000 by 1876, but prosperity was fleeting and Georgetown's days as "Silver Queen" came to an end with the repeal of the Sherman Silver Purchase Act of 1893. Mines were closed and Georgetown's population shrank to a low of 300 in 1930. The GSPNHLD was the subject of a historic sites reconnaissance survey in 1980. As a result, 211 buildings recorded within the GSPNHLD are contributing properties to the historic mining era significance of Georgetown and the District as a whole. Guanella Pass Road enters the GSPNHLD at Georgetown Reservoir extending northward along Leavenworth Mountain through a series of four switchbacks to Rose Street in Georgetown. The length of the road within the district is 3.0 kilometers (1.9 mile). Existing cuts associated with the road are visible from many vantage points throughout the district (see enclosed map - Figure I-2).

#### **Colorado Central Railroad Grade (Site # 5CC3.1/5CC9)**

With the mining boom of the 1870's, the Colorado Central Railway constructed a narrow gauge railroad up Clear Creek Canyon to Georgetown in 1877. A portion of the Colorado Central Railroad Grade intersects Guanella Pass Road at the second switchback just above and to the south of Georgetown. It has been used as a driveway to a private residence in the recent past. This small portion of the grade is within the Guanella Pass Road study corridor and was originally part of the narrow-gauge rail-bed linking Georgetown to Silver Plume. Only a portion of the grade along the lower slopes of Clear Creek Canyon at the east edge of Georgetown between Third and Sixth Streets retains integrity of setting, design, and materials. The railroad, including the segment in the study corridor, is listed on the National Register of Historical Places (NRHP) individually and as a contributing property to the GSPNHLD.

4. **Description of the undertakings effects on historic properties:** If the FHWA adopts construction of a Georgetown temporary construction traffic bypass bridge to route construction traffic away from Georgetown along Loop Road to the second switchback on Leavenworth Mountain, a portion [160 meters (525 feet)] of the Colorado Central Railroad Grade, Site #5CC3.1/5CC9 would be adversely affected. Site 5CC3.1/5CC9 has been listed on the NRHP individually and as a contributing element of the GSPNHLD. Consequently, since this historic property also contributes to the qualities of significance of the GSPNHLD, the bypass would constitute an adverse effect to the District. Since Leavenworth Mountain is the backdrop to the historic setting of the 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. Proposed improvements would entail tree removal, cuts and fills, and retaining walls within the existing roadway construction limits. The FHWA has determined that affecting the visual quality of Leavenworth Mountain will be an adverse effect to the GSPNHLD under the Preferred Alternative and all build alternatives. Both sites are listed on the National Register under criterion "a", for their association with events that have made a significant contribution to the broad patterns of our history.
5. **Applicability of Criteria of Adverse Effect:** 36 CFR 800.5(a)(2)(i) was found to be applicable to Site 5CC3.1/5CC9 given anticipated physical destruction of or damage to a portion of the property. Site 5CC3 was found to be applicable under 36 CFR 800.5(a)(2)(v), given visual impacts to Leavenworth Mountain. Measures to totally avoid both sites were considered, but total avoidance of both sites is not feasible. Measures to mitigate physical destruction of a portion of Site 5CC3.1/5CC9 will include a treatment plan following the *Secretary of the Interior's Standards for Architectural and Engineering Documentation* to be implemented should the temporary construction traffic bypass bridge be adopted. Measures to mitigate visual impacts to 5CC3 include the following:
- Minimize tree removal.
  - 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.
  - 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.
  - All guardrails will be 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 should 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.

The Guanella Pass Scenic Byway Corridor Management Strategy (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.

6. *Copies of the views of consulting parties are enclosed.*

If you have any questions, please contact Mr. Stephen Hallisy, Environmental Protection Specialist at 303 716-2140 or write to the above address, Attention: HFHD-16, Environment.

Sincerely yours,



John Knowles  
Project Manager

Enclosure

cc w/o enclosures:

Attention: Ms. Cynthia Neeley  
Ms. Lynn Granger  
Mayor  
PO Box 426  
Georgetown, CO 80444

Ms. Lisa Wegman-French  
National Park Service  
Intermountain Support Office  
National Historic Landmark Program  
PO Box 25287  
Denver, CO 80225-6675

Attention: Mr. Jim Green  
Ms. Georgianna Contiguglia  
State Historic Preservation Officer  
Colorado Historical Society  
1300 Broadway  
Denver, CO 80203-2137

bc w/o enclosure

S. Hallisy  
G. Strike  
J. Corwin

Reading file

Central File – CO FH 80, Guanella Pass Road  
SHALLISY:jm:08/07/2002:L\environm\wp\  
CO080\achpadvaffectnotification.doc



COLORADO  
HISTORICAL  
SOCIETY

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

August 7, 2002

Stephen Hallisy  
Environmental Protection Specialist  
Federal Highway Administration  
555 Zang Street  
Main Room 259  
Lakewood, CO 80228

Re: Colorado Forest Highway 80, Guanella Pass Road

Dear Mr. Hallisy:

Concerning our discussions on the Memorandum of Agreement (MOA) for Colorado Forest Highway 80, we suggest that the execution of the MOA wait until the selected alternative is chosen. Once that is known, the MOA can be written to address specific project terms and conditions.

If we may be of further assistance please contact Jim Green at 303-866-4674.

Sincerely,

For Georgianna Contiguglia  
State Historic Preservation Officer

GC/WJG



AUG 01 2002

Refer To: HFHD-16

Ms. Georgianna Contiguglia  
State Historic Preservation Officer  
Colorado Historical Society  
1300 Broadway  
Denver, CO 80203-2137

Attention: Ms. Kaaren K. Hardy

Dear Ms. Contiguglia:

Subject: Colorado Forest Highway 80, Guanella Pass Road

In our letter of July 13, 2002, we provided you with a detailed description of the proposed construction traffic haul route for the proposed project as follows: "Enclosed for your information is a map depicting the proposed construction traffic haul route for the proposed project. As indicated in the Preliminary Final EIS (page IV-9, bullet 5), the Federal Highway Administration (FHWA) will repair roads on the haul route to mitigate construction traffic impacts to existing roads. Hauling will originate from the Interstate 70 interchange along Argentine/Brownell to Loop Drive, then east to 7<sup>th</sup> Street crossing Clear Creek to Rose Street and then south on Rose Street to the switchbacks on Leavenworth Mountain. Work will include shifting Argentine/Brownell one roadway width to the West from the interchange to 14<sup>th</sup> 11th Street within the existing roadway footprint. A bridge will be constructed across Clear Creek at the intersection of Argentine and 7<sup>th</sup> Street, and the remainder of the haul route from 14<sup>th</sup> 11th Street to the switchbacks will be overlaid with a new surface (rehabilitated)." As indicated in the above revision, Argentine/Brownell will be shifted one roadway width from the I70 Interchange to 11th Street. In addition, the hauling route described is for large 18-wheelers. Smaller trucks are to cross at 7th Street and then proceed up Argentine Street.

If you have any questions, please contact Mr. Stephen Hallisy, Environmental Protection Specialist at 303 716-2140 or write to the above address, Attention: HFHD-16, Environment.

Sincerely yours,

*John Knowles*

*John Knowles*  
Project Manager






U.S. Department  
of Transportation  
**Federal Highway  
Administration**

# Memorandum

---

Subject: Federal Species List Update  
CO FH 80, Guanella Pass Road

Date: 7/18/2002

From:   
Robert Nestel  
Environmental Biologist

To: Central File: CO FH 80

I retrieved the Federal list of threatened and endangered species for Colorado from the Threatened and Endangered Species System (TESS). The data was current as of July 18, 2002 (see attached table).

I checked the list against existing biological reports for the project and the NatureServe database to determine whether any of the species may occur in the project area. Only the lynx may occur in the project area. The FHWA is currently in formal consultation with the Fish and Wildlife Service on the lynx, which was evaluated in the Biological Assessment dated March 1, 2002. No additional species have been listed that may occur in the project area.

---

**U.S. Fish and Wildlife Service**  
**Colorado -- 33 listings -- As of 7/13/2002**

**Animals -- 20**

<u>Status</u>	<u>Listing</u>	Included In BA?	Occur in area?
T	Bear, grizzly ( <i>Ursus arctos horribilis</i> )		N
E	Butterfly, Uncompahgre fritillary ( <i>Boloria acrocneema</i> )		N
E	Chub, bonytail ( <i>Gila elegans</i> )		N
E	Chub, humpback ( <i>Gila cypha</i> )		N
E	Crane, whooping ( <i>Grus americana</i> )		N
T	Eagle, bald ( <i>Haliaeetus leucocephalus</i> )	Y	N
E	Ferret, black-footed ( <i>Mustela nigripes</i> )		N
E	Flycatcher, southwestern willow ( <i>Empidonax traillii extimus</i> )	Y	N
T	Lynx, Canada ( <i>Lynx canadensis</i> )	Y	Y
T	Mouse, Preble's meadow jumping ( <i>Zapus hudsonius preblei</i> )		N
T	Owl, Mexican spotted ( <i>Strix occidentalis lucida</i> )		N
E	Pikeminnow (=squawfish), ( <i>Ptychocheilus lucius</i> )		N
T	Plover, piping ( <i>Charadrius melodus</i> )		N
T	Skipper, Pawnee montane ( <i>Hesperia leonardus montana</i> )		N
E	Sucker, razorback ( <i>Xyrauchen texanus</i> )		N
E	Tern, least ( <i>Sterna antillarum</i> )		N
T	Trout, greenback cutthroat ( <i>Oncorhynchus clarki stomias</i> )	Y	N
E	Wolf, gray ( <i>Canis lupus</i> )		N

**Plants -- 13**

<u>Status</u>	<u>Listing</u>	Included In BA?	Occur in area?
E	Milk-vetch, Mancos ( <i>Astragalus humillimus</i> )		N
E	Milk-vetch, Osterhout ( <i>Astragalus osterhoutii</i> )		N
E	Wild-buckwheat, clay-loving ( <i>Eriogonum pelinophilum</i> )		N
T	Mustard, Penland alpine fen ( <i>Eutrema penlandii</i> )	Y	N
T	Butterfly plant, Colorado ( <i>Gaura neomexicana</i> var. <i>coloradensis</i> )		N
T	Bladderpod, Dudley Bluffs ( <i>Lesquerella congesta</i> )		N
E	Cactus, Knowlton ( <i>Pediocactus knowltonii</i> )		N
E	Beardtongue, Penland ( <i>Penstemon penlandii</i> )		N
E	Phacelia, North Park ( <i>Phacelia formosula</i> )		N
T	Twinpod, Dudley Bluffs ( <i>Physaria obcordata</i> )		N
T	Cactus, Uinta Basin hookless ( <i>Sclerocactus glaucus</i> )		N
T	Cactus, Mesa Verde ( <i>Sclerocactus mesae-verdae</i> )		N
T	Ladies'-tresses, Ute ( <i>Spiranthes diluvialis</i> )		N



United States  
Department of  
Agriculture

Forest  
Service

Pike and San Isabel  
National Forests  
Cimarron and Comanche  
National Grasslands

Supervisor's Office  
2840 Kachina Drive  
Pueblo, CO 81008-1560  
(719) 553-1400  
TDD: (719) 553-1403  
[www.fs.fed.us/r2/psicc](http://www.fs.fed.us/r2/psicc)

---

File Code: 2520

Date: July 12, 2002

Phil Hegeman  
TMDL Coordinator  
Colorado Department of Public Health and  
Environment  
WQCD-B2  
4300 Cherry Creek Drive, South  
Denver, CO 80246-1530

Dear Phil,

Enclosed is data that will be useful to you in determining the level of stream impairment for Geneva Creek, a tributary of the North Fork South Platte River, located on the Pike National Forest, South Platte Ranger District.

Based upon review of this information and discussions with my staff I would like to recommend that Geneva Creek be added to the next 303(d) list as impaired due to sedimentation.

As you know, Geneva Creek is already on the current 303(d) list as impaired due to heavy metals. I'm sure that you will find that the data will support my recommendation of adding sediment to the causes of stream impairment as well.

If you have questions concerning this recommendation please feel free to contact me. If you have questions concerning the data that we have supplied to you please contact Charlie Marsh of my staff, at (719) 539-3971.

Sincerely,

/s/ Joe L. Meade  
JOE L. MEADE  
Acting Forest Supervisor

cc: Joan Y Carlson, Charles R Marsh, Teresa Wagner, Randy Hickenbottom



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

Central Federal Lands Highway Division  
555 Zang Street  
Mail Room 259  
Lakewood, CO 80228

JUL 10 2002

Refer To: HFHD-16

Ms. Georgianna Contiguglia  
State Historic Preservation Officer  
Colorado Historical Society  
1300 Broadway  
Denver, CO 80203-2137

Attention: Ms. Kaaren K. Hardy

Dear Ms. Contiguglia:

Subject: Colorado Forest Highway 80, Guanella Pass Road

We are contacting you at this time to continue consultation on the subject project. In our letter of March 6, (copy enclosed) we determined that Sites 5CC988-990, Kirtley Mine tailing dumps, would be directly impacted by all build alternatives. It is our finding at this time that one additional mine tailing dump, Site 5CC993, will be directly impacted by all build alternatives for the subject project. However, widening the existing road at this site will not substantially diminish the integrity or qualities of this site, which meets criteria A for NRHP eligibility. We have applied the criteria of adverse effect and no adverse effect in accordance with 36 CFR 800.5(a)(1) & (b) and find that adoption of any of the build alternatives will have no adverse effect on Site 5CC993.

We ask for your comment and concurrence with our findings of no adverse effect for Site 5CC993. If you have any questions, please contact Mr. Stephen Hallisy, Environmental Protection Specialist at 303 716-2140 or write to the above address, Attention: HFHD-16, Environment.

Sincerely yours,

*JS/*

John Knowles  
Project Manager

Enclosure

# Telephone Log

Colorado FH 80

Native American Contact	Date(s) Contacted	Comment on PFEIS
Mr. Jimmy Arterberry, THPO Cultural Preservation Office Comanche Tribe HC 32, PO Box 1720 Lawton, OK 73502	5/23/02	Have no comments
Ms. Zelda Tillman, Director Eastern Shoshone Culture Center Wind River Reservation PO Box 217 Fort Washakie, WY 82514	5/23/02 6/3/02 6/10/02	Not in Left voicemail No available – left message
Mr. Robert Goggles NAGPRA Representative Northern Arapaho Cultural Commission Wind River Reservation PO Box 217 Fort Washakie, WY 82514	5/23/02	Have no comments
Mr. Gilbert Brady, Director Northern Cheyenne Cultural Committee Northern Cheyenne Reservation PO Box 128 Lame Deer, MT 59043	6/03/02	Have no comments
Mr. John Washakie, Chairperson Shoshone Business Council Wind River Reservation PO Box 217 Fort Washakie, WY 82514	5/23/02 6/10/02 6/11/02	Not in – left voicemail Left 2 <sup>nd</sup> voicemail John returned my call; will provide letter stating that they have no comments



<p>Mr. Neil Cloud  NAGPRA Coordinator  Southern Ute Cultural  Department  Southern Ute Reservation  PO Box 737  Ignacio, CO 81137</p>		<p>Provided written comments</p>
<p>Ms. Betsy Chapoose  Cultural Preservation Office  Ute Indian Tribe, Colorado  Chapter  Uintah &amp; Ouray Reservation  PO Box 190  Fort Duchesne, UT 84206</p>	<p>5/23/02  6/03/02  6/05/02</p>	<p>Not in – Left voicemail  Not in - Left 2<sup>nd</sup> voicemail  Returned call – will send written comments  week of 6/12; would like field review of project</p>
<p>Mr. Terry Knight  Spiritual Coordinator  Ute Mountain Ute Tribe  PO Box 52  Towaoc, CO 81344</p>	<p>6/04/02</p>	<p>Have no written comments; would like field  review of project</p>
<p>Chairperson Mary Jane Yazzi  White Mesa Ute Council  White Mesa Ute  PO Box 340  Blanding, UT 84511</p>	<p>5/28/02  6/3/02  6/10/02  6/13/02</p>	<p>No answer, no voicemail  No answer, no voicemail  No answer, no voicemail  Not in; left voicemail</p>



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

Central Federal Lands Highway Division  
555 Zang Street  
Mail Room 259  
Lakewood, CO 80228

JUN 11 2002

Refer To: HFHD-16

Ms. Georgianna Contiguglia  
State Historic Preservation Officer  
Colorado Historical Society  
1300 Broadway  
Denver, CO 80203-2137

Attention: Ms. Kaaren K. Hardy

Dear Ms. Contiguglia:

Subject: Colorado Forest Highway 80, Guanella Pass Road

Enclosed for your information is a map depicting the proposed construction traffic haul route for the proposed project. As indicated in the Preliminary Final EIS (page IV-9, bullet 5), the Federal Highway Administration (FHWA) will repair roads on the haul route to mitigate construction traffic impacts to existing roads. Hauling will originate from the Interstate 70 interchange along Argentine/Brownell to Loop Drive, then east to 7<sup>th</sup> Street crossing Clear Creek to Rose Street and then south on Rose Street to the switchbacks on Leavenworth Mountain. Work will include shifting Argentine/Brownell one roadway width to the West from the interchange to 14<sup>th</sup> Street within the existing roadway footprint. A bridge will be constructed across Clear Creek at the intersection of Argentine and 7<sup>th</sup> Street, and the remainder of the haul route from 14<sup>th</sup> Street to the switchbacks will be overlaid with a new surface (rehabilitated).

If you have any questions, please contact Mr. Stephen Hallisy, Environmental Protection Specialist at 303 716-2140 or write to the above address, Attention: HFHD-16, Environment.

Sincerely yours,

John Knowles  
Project Manager

Enclosure



COLORADO  
HISTORICAL  
SOCIETY

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

June 11, 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, CO 80228

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

Dear Mr. Knowles:

Thank you for your correspondence dated February 20 and March 6, 2002, concerning the survey report entitled *A Second Addendum to An Intensive Cultural Resources Survey along the Guanella Pass Road, Colorado Forest Highway 80, Park and Clear Creek Counties, Colorado* and the preliminary final environmental impact statement (FEIS) for the above project.

Survey Report

We are pleased that you have contacted both the Certified Local Government (Georgetown) and the National Park Service. Georgetown's comments on the above survey report have been received and reviewed. After examining the survey report and inventory forms you provided, we concur with your opinion that neither of the following properties meets the National Register of Historic Places eligibility criteria due to loss of integrity:

**5PA2002**

**Duck Creek Road (5PA2003/5CC1188)**

We concur with your determination that the Guanella Pass Summit Parking Area will not adversely affect the qualities of significance of either **5CC70** or **5CC3 (Georgetown - Silver Plume National Historic Landmark District/GSPNHLD)**. However, we agree with the report preparator's recommendation that temporary fencing be placed between **5CC70** and the new parking area during construction. In addition, if subsurface archaeological resources are encountered during ground disturbing activities, it will be necessary to halt the work until such resources can be evaluated in consultation with our office.

---

OFFICE OF ARCHAEOLOGY AND HISTORIC PRESERVATION

303-866-3392 \* Fax 303-866-2711 \* E-mail: [oahp@chs.state.co.us](mailto:oahp@chs.state.co.us) \* Internet: <http://www.coloradohistory-oahp.org>

John Knowles  
June 11, 2002  
RE: Guanella Pass Road  
Page two

We also concur with your finding that construction of either the Georgetown bypass bridge or construction traffic bypass bridge will adversely affect a portion of the **Colorado Central Railroad Grade (5CC9)**, which is listed in the National Register of Historic Places. Since this historic property also contributes to the qualities of significance of the GSPNHLD, either bypass would constitute an adverse effect to the district. If either alternative is selected it will be necessary to notify the Advisory Council on Historic Preservation of this finding. The Council's address is:

Western Office of Review  
12136 West Bayaud Avenue, Suite 330  
Lakewood, CO 80226

In the event that this adverse effect is justified, it will be necessary to develop a Memorandum of Agreement (MOA) to incorporate any treatment plan that will mitigate this effect.

### FEIS

It is our opinion that this document satisfactorily addresses cultural resource issues, along with 4(f) matters and traditional cultural properties. We concur with your determinations as to which historic properties are within the area of potential effects of the proposed project and with the effects determinations expressed on pages III-35 through II-37 of this document with the following exceptions:

- **Page III-36 - Open Lithic Scatter (5PA70)** - No adverse effect as indicated above with the fencing condition noted.
- **Page III-36 - Georgetown, Argentine, Snake River Wagon Road and the Green Lake Wagon Road (5CC861.1-7)** - Since these segments have been found not eligible, no historic properties will be affected.

In addition to the determinations of effect addressed above, we agree that the historic properties listed below will not be adversely affected:

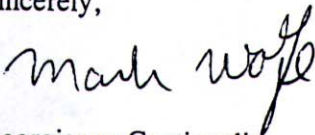
**5CC988, 5CC89 and 5CC990**

Finally, we have the following minor editing comments:

- **Page vii** - The *Section IV. Mitigation* pages need to be renumbered in the Table of Contents.
- **Page III-33** - The Colorado Central Railroad Grade is individually listed in the National Register.
- **Page III-37, line 3** - The Mine Tailing Dumps site numbers should read "5CC988-993".

If we may be of further assistance, please contact Kaaren Hardy, our Intergovernmental Services Director, at 303/866-3398.

Sincerely,



for  
Georgianna Contiguglia  
State Historic Preservation Officer

# The Town of Georgetown

P.O. Box 426  
Georgetown, Colorado 80444  
(303) 569-2555



Ms. Georgianna Contiguglia  
State Historic Preservation Officer  
Colorado Historical Society  
1300 Broadway  
Denver, CO 80203 - 2137

Attention: Ms. Kaaren K. Hardy

Dear Ms. Contiguglia,

Subject: Colorado Forest Highway 80, Guanella Pass Road

At the regular meeting on May 23, 2002 of the Design Review Commission of the Town of Georgetown, the Commission, acting in their capacity as review agency for the Certified Local Government, reviewed the aspects of the FHWA Second Addendum to an Intensive Cultural Resources Survey dated February 2002 which pertain to the Georgetown Silver Plume National Historic Landmark District. Two of the projects described are within the Landmark District: the Georgetown Temporary Bypass Bridge and the Silverdale Parking Area Site plan.

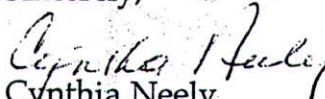
The Commission made the following findings by unanimous vote:

Georgetown Temporary By Pass Bridge: The Commission finds the temporary bypass bridge to have an adverse impact on the district. However, the temporary bypass bridge is a better alternative than construction traffic through the historic town. Mitigation to restore the historic railroad grade would be mandatory to allow the temporary bypass bridge.

Silverdale Parking Area: The Commission finds the Silverdale Parking Area to have a positive impact. The Commission feels the parking area would enhance the historic site of Silverdale and restrict motor vehicle use in the area.

If you have any questions, please contact Town Clerk Phyllis Mehrer at 303 569 2555.

Sincerely,

  
Cynthia Neely  
Special Projects

cc: Stephen Hallisy, Environmental Protection Specialist, FHWA



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

Central Federal Lands Highway Division  
555 Zang Street  
Mail Room 259  
Lakewood, CO 80228

**APR 15 2002**

Refer To: HFHD-16

Mr. Kurt Broderdorp  
Fish and Wildlife Service  
764 Horizon Drive  
Grand Junction, CO 81506

Dear Mr. Broderdorp:

Subject: Biological Assessment/Guanella Pass Road

Enclosed are copies of Biological Assessment pages 25 - 28, which contain corrections on pages 26 and 27. The only change to the document is in Section 6.5, the finding for the boreal toad. This should not affect our ongoing formal consultation on the Canada lynx, but is provided to assure consistency between the Biological Assessment and the other biological reports prepared for the project.

If you have any questions, please contact Mr. Robert Nestel, Environmental Biologist, at 303-716-2142 (email: [bnestel@road.cflhd.gov](mailto:bnestel@road.cflhd.gov)) or write to the above address, Attention: HFHD-16, Environment.

Sincerely yours,

John Knowles  
Project Manager

**Enclosures**

cc w/enclosure:

Ms. Jennifer Corwin, FHWA, Denver

Mr. Dennis Lowry, Forest Wildlife Biologist, Arapaho & Roosevelt National Forest, 240 West Prospect, Ft. Collins, CO 80526

Ms. Denny Bohon, District Biologist, Pike & San Isabel Nat'l Forest, 19316 Goddard Ranch Court, Morrison, CO 80465



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

Central Federal Lands Highway Division  
555 Zang Street  
Mail Room 259  
Lakewood, CO 80228

MAR 25 2002

Refer To: HFHD-16

Ms. Koleen Brooks  
Police Judge  
The Town of Georgetown  
P.O. Box 426  
Georgetown, Colorado 80444

Dear Ms. Brooks:

This letter is in response to your letter dated February 4, 2002 in which you and the Board of Selectmen requested certain traffic control methods for the CO PFH 80 Guanella Pass Road Improvement Project (Project). In this letter you and the Board also requested that the Federal Highway Administration (FHWA), as a part of construction hauling mitigation for this Project, participate in Georgetown's Gateway Project.

In your letter you stated that traffic was projected to increase 224% if the road surface were paved. It is important to clarify our traffic volume projections. First, 224% growth is a conservative number used in the Draft Environmental Impact Statement for the full reconstruction paved alternative (Alternative 2) using a 3% traffic growth rate. Since that time the predicted growth rate was revised to 1.5% and the estimated increase in traffic for the full reconstruction paved alternative was revised to 181% growth over present day conditions. These lower traffic growth rates were adjusted to better match growth predictions for the Colorado Front Range. Second, it is our judgment that, with the use of a macadam surface, the traffic increase expected for Alternative 6 would be a total of 20% traffic increase over the No Action Alternative and an 88% increase over the present condition.

In your letter you also requested that, if macadam were selected, FHWA consider reducing curve radii, installing dips, or installing speed bumps. We have already reduced design speeds to 20 km/h, which reduced the roadway radii to 12 meters in the switchback sections. This is our minimum standard for safe highway operations on this Project. As was discussed in the November 8, 2001 interagency meeting, we cannot further reduce any of the design elements of the road, including design speed or curve radii. We do not believe that speed bumps or dips would be an appropriate traffic control for Guanella Pass. We consulted with Clear Creek

County on this matter since they own and operate the portion of the road where you suggest reduced radii curves, dips, or speed bumps. Clear Creek County requested that we not use dips or speed bumps on the portions of the road over which they have jurisdiction due to snow plowing difficulties and liability concerns.

You requested that the surface not be striped. We presume that you meant that the macadam surface not be striped. We are recommending that the macadam surface not be striped and the pavement surface be striped. However, the decision of striping will be made by the maintaining agencies.

In your letter you also requested that FHWA mitigate construction impacts by doing three tasks. In order to accomplish this mitigation we will need to perform additional environmental clearance work and evaluate impacts the proposed mitigation would have on the project development schedule and construction sequencing. FHWA would also expect Georgetown to purchase any needed right-of-way for these mitigation measures.

Our comments on your three tasks are:

1. Connection of Guanella Pass drainage to the town system at 5<sup>th</sup> Street. This connection necessitates curb and gutter installed to the town's specifications from 2<sup>nd</sup> to 5<sup>th</sup> Streets.

We have committed to do this work in the past and plan to continue our discussions with you about how to accomplish this work.

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

Prior to committing to this haul route, we need to perform more research to determine what additional hydraulic work would be required prior to approval and construction of a new bridge at 7<sup>th</sup> Street. If we can determine that a reasonable bridge layout will meet Federal Emergency Management Agency flood plain studies and/or regulations without extensive approach fill heights, then we will agree to the design and construction of the new bridge. We also believe 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 7<sup>th</sup>.

3. FHWA's use of Argentine/Brownell Street as a construction haul route will be extensive. This area is part of Georgetown's proposed Gateway Improvement project. Argentine Street between 15<sup>th</sup> and Loop Drive is to be moved west by a road width and lowered. The existing right-of-way width permits this change. A concept for the area was developed through your public involvement process and the town has requested bids for final design. Georgetown anticipates the final design concept will be completed at the



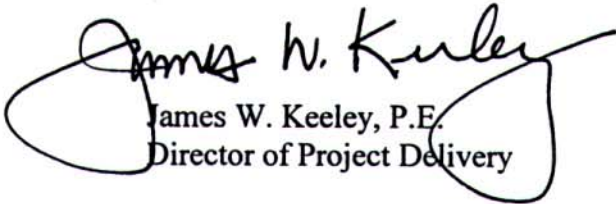
end of August 2002. FHWA's work on Argentine Street should be consistent with this design.

Representatives of FHWA met with Ms. Cindy Neely of Georgetown on March 4<sup>th</sup> and March 7<sup>th</sup> of this year to learn more about Georgetown's needs relative to providing a haul route through Georgetown and how to mitigate construction damage to Georgetown's streets from our construction activities. We agree to move Argentine/Brownell Street to the West one roadway width (approximately 21 feet) from 15<sup>th</sup> Street to just before 11<sup>th</sup> Street. We would taper Argentine/Brownell back to match the existing roadway at the intersection with 11<sup>th</sup> Street. This roadway would 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 would not impact the treed area on the west side of Argentine/Brownell near the intersection of 11<sup>th</sup> Street. We will use Georgetown's conceptual drawings for this work and create a design that matches those drawings as closely as possible. We cannot perform any work outside this proposed roadway width since this would not be eligible for a haul road or construction damage mitigation.

FHWA has determined that these three mitigation measures as stated above are eligible for Forest Highway Program funding. Attached is a draft cooperating agency agreement that Georgetown needs to sign. This agreement will give Georgetown cooperating agency status on this Project. As Mr. Knowles discussed during the February 12, 2002 Selectmen meeting, Georgetown's participation will not end with the signing of the Cooperating Agency Agreement. Georgetown will be asked to participate through the final design and construction phases, and to influence the design and construction in order to meet Georgetown's requirements. We will provide Georgetown with both formal and informal opportunities to participate and influence the design and construction details through interaction with our Project Manager, Mr. Knowles, for the Georgetown portion of the Project. The traditional formal opportunities are at the 30%, 70%, 95%, and final stages of the development of the plans and specification for the Project, along with the pre-construction and partnering meetings with the contractor before construction begins, progress meetings during construction, and the final inspection before the final work is accepted.

We look forward to working with Georgetown on these matters as a cooperator on this Project. In order to facilitate further work on planning these road improvements within Georgetown we need Georgetown to sign a Cooperating Agency Agreement (a copy was previously sent to Georgetown). If you have questions please call Mr. John Knowles at 303-716-2149.

Sincerely yours,

  
James W. Keeley, P.E.  
Director of Project Delivery

Enclosure

cc: Clear County Commissioners



# SOUTHERN UTE INDIAN TRIBE

March 18, 2002

John Knowles, Project Manager  
Central Federal Lands Highway Division  
555 Zang Street  
Mail Room 259  
Lakewood, CO 80228

Subject: Colorado Forest Highway 80, Guanella Pass Road (HFHD 16)


Dear Mr. Knowles:

The Southern Ute Indian Tribe believes, at this time, there are no known impacts to areas of Native American cultural sites that are sensitive to this Tribe in regards to the Colorado Forest Highway 80 improvements. In the event of inadvertent discoveries of Native American sites, artifacts, or human remains, this Tribe would appreciate immediate notification of such findings.

Mr. Neil Cloud is the Tribe's official NAGPRA Coordinator. Please address all future NAGPRA concerns to Mr. Cloud. As Mr. Aldan Naranjo is no longer working for the Tribe, remove Mr. Naranjo's name from future mailings.

Should you require additional comments or have any questions, feel free to contact Mr. Cloud at the number listed below, extension 2209.

Sincerely,

  
Edna Frost, Director  
Department of Tribal Information Services

Cc: Neil Cloud, NAGPRA Coordinator



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

Central Federal Lands Highway Division  
555 Zang Street  
Mail Room 259  
Lakewood, CO 80228

MAR 08 2002

Refer To: HFHD-16

Ms. Lisa Wegman-French  
National Park Service  
Intermountain Support Office  
National Historic Landmark Program  
PO Box 25287  
Denver, CO 80225-6675

Dear Ms. Wegman-French:

Subject: Colorado Forest Highway 80, Guanella Pass Road

Enclosed for your review and comment is a survey report entitled *A Second Addendum to An Intensive Cultural Resources Survey Along the Guanella Pass Road, Colorado Forest Highway 80, Park and Clear Creek Counties, Colorado* and the Preliminary Final Environmental Impact Statement (PFEIS) for the subject project. The enclosed survey report documents a cultural resources survey of four new parking areas, two borrow sources, and a temporary bypass bridge that have been added to the proposed project improvements since the original survey conducted by Walt in 1998. These areas were surveyed for cultural resources in August 2000 and September, October, and November 2001. Two additional historic properties were located, and two previously recorded sites were revisited during the survey.

In accordance with 36 CFR 800.10(c), we ask for your comment and concurrence with our finding that the proposed undertaking will have no adverse effect on the Georgetown-Silver Plume National Historic Landmark District. We have also enclosed copies of the Federal Highway Administration and the USDA Forest Service findings of eligibility and effect submitted to the Colorado Historic Preservation Officer under separate cover.

If you have any questions, please contact Mr. Stephen Hallisy, Environmental Protection Specialist at 303 716-2140 or write to the above address, Attention: HFHD-16, Environment.

Sincerely yours,

John Knowles  
Project Manager

Enclosures



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

Central Federal Lands Highway Division  
555 Zang Street  
Mail Room 259  
Lakewood, CO 80228

MAR 08 2002

Refer To: HFHD-16

Ms. Koleen Brooks  
Mayor  
PO Box 426  
Georgetown, CO 80444

Attention: Ms. Cynthia Neeley

Dear Mayor Brooks:

Subject: Colorado Forest Highway 80, Guanella Pass Road  
Cultural Resource Inventory Report

Enclosed for your review and comment is a survey report entitled *A Second Addendum to An Intensive Cultural Resources Survey Along the Guanella Pass Road, Colorado Forest Highway 80, Park and Clear Creek Counties, Colorado*. The enclosed survey report documents a cultural resources survey of four new parking areas, two borrow sources, and a temporary bypass bridge that have been added to the proposed project improvements since the original survey conducted by Walt in 1998. These areas were surveyed for cultural resources in August 2000 and September, October, and November 2001. Two additional historic properties were located, and two previously recorded sites were revisited during the survey.

In accordance with 36 CFR 800.4(c)(1), the Federal Highway Administration (FHWA) and the USDA Forest Service (FS) have applied National Register Criteria to sites 5PA2002 and 5PA2003/5CC1188, and find that neither of the two newly recorded sites meet criteria of eligibility for listing on the National Register of Historic Places (NRHP). The Duck Creek Picnic Area context at Site 5PA2002 has destroyed the integrity of the archeological deposits through original construction and subsequent use. Site 5PA2003/5CC1188, Duck Creek Road, has no association with historic persons or events and required no special engineering requirements to build. There are few archeological items associated with the road context (e.g. nails, bottle glass).

Furthermore, the FHWA and the FS have applied the criteria of adverse effect and no adverse effect in accordance with 36 CFR 800.5(a)(1) & (b) and find that the proposed undertaking will have an adverse effect on a 160-meter (525-foot) portion of site 5CC3.1/5CC9, the Colorado Central Railroad Grade, should either the Georgetown bypass bridge or construction traffic bypass bridge across Clear Creek from Loop road to the second switchback on FH 80 be adopted (page II-47 and VI-9 of the PFEIS). In addition, the proposed Guanella Pass Summit Parking

Area would be located 6 meters (20 feet) to the west of site 5CC.70 and would not impact the site. The proposed Silverdale Parking Area is within the Georgetown-Silver Plume National Historic Landmark District (GSPNHLD) and will be partially constructed on old mining tailings. These tailings do not contribute to the GSPNHLD since they have been re-mined for use as road aggregate and no longer possess integrity of location, historic association, or archeological potential. We find that construction of the Georgetown bypass and proposed Silverdale Parking Area will have no adverse effect of the criteria that qualifies the GSPNHLD for the NRHP.

At the request of the FS, the FHWA has also examined aerial photographs of Guanella Pass Road (Flight numbers 14-19, 1993) to determine if any additional evidence of site 5CC.861.1-7, the Georgetown/Argentine & Snake River/Green Lake Wagon Road, could be found. Close inspection of the aerial photographs did not reveal any additional evidence of the road beyond those isolated segments recorded by Walt (1998). Since no additional evidence of the site could be located, the FS has concurred with our finding that site 5CC.861.1-7 is ineligible for listing on the NRHP. Sites 5CC988-990, Kirtley Mile tailing dumps, would be directly impacted by all build alternatives. Portions of these sites within the existing FH 80 footprint have been altered and lack integrity of location, setting, and association due to the initial construction of FH 80 and subsequent use. However, widening the existing road will not substantially diminish the integrity or qualities of these sites, which meet criteria A for NRHP eligibility. We find that adoption of any of the build alternatives will have no adverse effect on sites 5CC988-990 and the GSPNHLD.

A treatment plan is recommended to mitigate impacts to site 5CC3.1/5CC9 should the Georgetown bypass bridge site or temporary bypass bridge site alternative be adopted. Site 5CC.70 would not be adversely impacted by the proposed Guanella Pass Parking Area; but given its proximity to the proposed parking area, temporary barrier fencing should be erected between site 5CC.70 and the new parking area during construction operations. We ask for your comment and concurrence with our finding of adverse effect for site 5CC3.1/5CC9, the Colorado Central Railroad Grade, and no adverse effect for the GSPNHLD and sites 5CC988-990, Kirtley Mine tailing dumps, with adoption of any of the build alternatives and the Silverdale Parking Area.

If you have any questions, please contact Mr. Stephen Hallisy, Environmental Protection Specialist at 303 716-2140 or write to the above address, Attention: HFHD-16, Environment.

Sincerely yours,



John Knowles  
Project Manager

Enclosure



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

Central Federal Lands Highway Division  
555 Zang Street  
Mail Room 259  
Lakewood, CO 80228

**MAR 06 2002**

Refer To: HFHD-16

See Addressee List

Subject: Colorado Forest Highway 80, Guanella Pass Road

Enclosed for your review and comment is a survey report entitled *A Second Addendum to An Intensive Cultural Resources Survey Along the Guanella Pass Road, Colorado Forest Highway 80, Park and Clear Creek Counties, Colorado*. The enclosed survey report documents a cultural resources survey of four new parking areas, two borrow sources, and a temporary bypass bridge that have been added to the proposed project improvements since the original survey conducted by Walt in 1998. These areas were surveyed for cultural resources in August 2000 and September, October, and November 2001. Two additional historic properties were located and two previously recorded sites were revisited during the survey.

In accordance with 36 CFR 800.4(c)(1), the Federal Highway Administration (FHWA) and the USDA Forest Service (FS) have applied National Register Criteria to sites 5PA2002 and 5PA2003/5CC1188, and find that neither of the two newly recorded sites meet criteria of eligibility for listing on the National Register of Historic Places (NRHP). The Duck Creek Picnic Area context at Site 5PA2002 has destroyed the integrity of the archeological deposits through original construction and subsequent use. Site 5PA2003/5CC1188, Duck Creek Road, has no association with historic persons or events and required no special engineering requirements to build. There are few archeological items associated with the road context (e.g. nails, bottle glass).

Furthermore, the FHWA and the FS have applied the criteria of adverse effect and no adverse effect in accordance with 36 CFR 800.5(a)(1) & (b) and find that the proposed undertaking will have an adverse effect on a 160-meter (525-foot) portion of site 5CC3.1/5CC9, the Colorado Central Railroad Grade, should either the Georgetown bypass bridge or construction traffic bypass bridge across Clear Creek from Loop Road to the second switchback on FH 80 be adopted (page II-47 and VI-9 of the PFEIS). In addition, the proposed Guanella Pass Summit Parking Area would be located 6 meters (20 feet) to the west of site 5CC.70 and would not impact the site. The proposed Silverdale Parking Area is within the Georgetown-Silver Plume National Historic Landmark District (GSPNHLD) and will be partially constructed on old mining tailings. These tailings do not contribute to the GSPNHLD since they have been re-mined for use as road aggregate and no longer possess integrity of location, historic association, or archeological potential. We find that construction of the Georgetown bypass and proposed

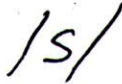
Silverdale Parking Area will have no adverse effect on the criteria that would qualify the GSPNHLD for the NRHP.

At the request of the FS, the FHWA has also examined aerial photographs of Guanella Pass Road (Flight numbers 14-19, 1993) to determine if any additional evidence of site 5CC.861.1-7, the Georgetown/Argentine & Snake River/Green Lake Wagon Road, could be found. Close inspection of the aerial photographs did not reveal any additional evidence of the road beyond those isolated segments recorded by Walt (1998). Since no additional evidence of the site could be located, the FS has concurred with our finding that site 5CC.861.1-7 is ineligible for listing on the NRHP. Sites 5CC988-990, Kirtley Mine tailing dumps, would be directly impacted by all build alternatives. Portions of these sites within the existing FH 80 footprint have been altered and lack integrity of location, setting, and association due to the initial construction of FH 80 and subsequent use. However, widening the existing road will not substantially diminish the integrity or qualities of these sites, which meet criteria A for NRHP eligibility. We find that adoption of any of the build alternatives will have no adverse effect on sites 5CC988-990 and the GSPNHLD.

A treatment plan is recommended to mitigate impacts to site 5CC3.1/5CC9 should the Georgetown bypass bridge site or temporary bypass bridge site alternative be adopted. Site 5CC.70 would not be adversely impacted by the proposed Guanella Pass Parking Area; but given its proximity to the proposed parking area, temporary barrier fencing should be erected between site 5CC.70 and the new parking area during construction operations. In accordance with 36 CFR 800.2(c)(3), we ask for your comment and concurrence with our findings of eligibility and effect.

If you should desire a field review of the project area or have any questions regarding the project, please contact Mr. Stephen Hallisy, Environmental Protection Specialist, at 303 716-2140 or write to the above address, Attention: HFHD-16, Environment.

Sincerely yours,



John Knowles  
Project Manager

Enclosure

Addressees:

Chairman Wallace Coffey  
Comanche Tribal Business Council  
Comanche Tribe  
HC 32, PO Box 1720  
Lawton, OK 73502

Ms. Phyllis Attocknie, Director  
Cultural Preservation Office  
Comanche Tribe  
HC 32, PO Box 1720  
Lawton, OK 73502

Ms. Joyce Posey, Director  
Eastern Shoshone Culture Center  
Wind River Reservation  
PO Box 217  
Fort Washakie, WY 82514

Director  
Northern Arapaho Cultural Commission  
Wind River Reservation  
PO Box 217  
Fort Washakie, WY 82514

Chairperson Richard Brannan  
Northern Arapaho Business Council  
Wind River Reservation  
PO Box 217  
Fort Washakie, WY 82514

Mr. William Walks Along, President  
Northern Cheyenne Tribal Council  
Northern Cheyenne Reservation  
PO Box 128  
Lame Deer, MT 59043

Mr. Butch Sootkis, Director  
Northern Cheyenne Cultural Committee  
Northern Cheyenne Reservation  
PO Box 128  
Lame Deer, MT 59043

Mr. John Washakie, Chairperson  
Shoshone Business Council  
Wind River Reservation  
PO Box 217  
Fort Washakie, WY 82514

Chairperson Clement Frost  
Southern Ute Tribal Council  
Southern Ute Reservation  
PO Box 737  
Ignacio, CO 81137

Mr. Aldan Naranjo, Historian  
Southern Ute Cultural Department  
Southern Ute Reservation  
PO Box 737  
Ignacio, CO 81137

Chairperson Ron Wopsock  
Uintah & Ouray Business Committee  
Uintah & Ouray Reservation  
PO Box 190  
Ft. Duchesne, UT 84206

Ms. Betsy Champoos  
Cultural Preservation Office  
Uintah & Ouray Reservation  
PO Box 190  
Fort Duchesne, UT 84206

Chairperson Judy Knight-Frank  
Ute Mountain Ute Tribal Council  
Ute Mountain Ute Reservation  
General Delivery  
Towaoc, CO 81344

Tribal Manager  
Ute Mountain Ute Tribe  
PO Box 52  
Towaoc, CO 91334



Mr. Terry Knight  
Spiritual Coordinator  
Ute Mountain Ute Tribe  
PO Box 52  
Towaoc, CO 81344

Mr. Luke Duncan  
Colorado Chapter  
Ute Indian Tribe  
PO Box 190  
Fort Duchesne, UT 84026

Ms. Lynn Hartman  
Ute Mountain Ute Tribe  
PO Box 52  
Towaoc, CO 81334

Chairperson Mary Jane Yazzi  
White Mesa Ute Council  
White Mesa Ute  
PO Box 340  
Blanding, UT 84511

cc wo enclosure:

Ms. Georgianna Contiguglia  
State Historic Preservation Officer  
Colorado Historical Society  
1300 Broadway  
Denver, CO 80203-2137

Alan E. Kane  
Historic Preservation Officer  
Pike & San Isabel NF  
1920 Valley Drive  
Pueblo, CO 81008



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

Central Federal Lands Highway Division  
555 Zang Street  
Mail Room 259  
Lakewood, CO 80228

MAR 06 2002

Refer To: HFHD-16

Ms. Georgianna Contiguglia  
State Historic Preservation Officer  
Colorado Historical Society  
1300 Broadway  
Denver, CO 80203-2137

Attention: Ms. Kaaren K. Hardy

Dear Ms. Contiguglia:

Subject: Colorado Forest Highway 80, Guanella Pass Road

Enclosed for your review and comment is a survey report entitled *A Second Addendum to An Intensive Cultural Resources Survey Along the Guanella Pass Road, Colorado Forest Highway 80, Park and Clear Creek Counties, Colorado*. The enclosed survey report documents a cultural resources survey of four new parking areas, two borrow sources, and a temporary bypass bridge that have been added to the proposed project improvements since the original survey conducted by Walt in 1998. These areas were surveyed for cultural resources in August 2000 and in September, October, and November 2001. Two additional historic properties were located, and two previously recorded sites were revisited during the survey.

In accordance with 36 CFR 800.4(c)(1), the Federal Highway Administration (FHWA) and the USDA Forest Service (FS) have applied National Register Criteria to sites 5PA2002 and 5PA2003/5CC1188, and find that neither of the two newly recorded sites meet criteria of eligibility for listing on the National Register of Historic Places (NRHP). The Duck Creek Picnic Area context at Site 5PA2002 has destroyed the integrity of the archeological deposits through original construction and subsequent use. Site 5PA2003/5CC1188, Duck Creek Road, has no association with historic persons or events and required no special engineering requirements to build. There are few archeological items associated with the road context (e.g. nails, bottle glass).

Furthermore, the FHWA and the FS have applied the criteria of adverse effect and no adverse effect in accordance with 36 CFR 800.5(a)(1) & (b) and find that the proposed undertaking will have an adverse effect on a 160-meter (525-foot) portion of site 5CC3.1/5CC9, the Colorado Central Railroad Grade, should either the Georgetown bypass bridge or construction traffic bypass bridge across Clear Creek from Loop road to the second switchback on FH 80 be adopted (page II-47 and VI-9 of the PFEIS). In addition, the proposed Guanella Pass Summit Parking

Area would be located 6 meters (20 feet) to the west of site 5CC.70 and would not impact the site. The proposed Silverdale Parking Area is within the Georgetown-Silver Plume National Historic Landmark District (GSPNHLD) and will be partially constructed on old mining tailings. These tailings do not contribute to the GSPNHLD since they have been re-mined for use as road aggregate and no longer possess integrity of location, historic association, or archeological potential. We find that construction of the Georgetown bypass and proposed Silverdale Parking Area will have no adverse effect on criteria that would qualify the GSPNHLD for the NRHP.

At the request of the FS, the FHWA has also examined aerial photographs of Guanella Pass Road (Flight numbers 14-19, 1993) to determine if any additional evidence of site 5CC.861.1-7, the Georgetown/Argentine & Snake River/Green Lake Wagon Road, could be found. Close inspection of the aerial photographs did not reveal any additional evidence of the road beyond those isolated segments recorded by Walt (1998). Since no additional evidence of the site could be located, the FS has concurred with our finding that site 5CC.861.1-7 is ineligible for listing on the NRHP. Sites 5CC988-990, Kirtley Mine tailing dumps, would be directly impacted by all build alternatives. Portions of these sites within the existing FH 80 footprint have been altered and lack integrity of location, setting, and association due to the initial construction of FH 80 and subsequent use. However, widening the existing road will not substantially diminish the integrity or qualities of these sites, which meet criteria A for NRHP eligibility. We find that adoption of any of the build alternatives will have no adverse effect on sites 5CC988-990 and the GSPNHLD.

A treatment plan is recommended to mitigate impacts to site 5CC3.1/5CC9 should the Georgetown bypass bridge site or temporary bypass bridge site alternative be adopted. Site 5CC.70 would not be adversely impacted by the proposed Guanella Pass Parking Area; but given its proximity to the proposed parking area, temporary barrier fencing should be erected between site 5CC.70 and the new parking area during construction operations. We ask for your comment and concurrence with our findings of eligibility and effect.

If you have any questions, please contact Mr. Stephen Hallsy, Environmental Protection Specialist at 303 716-2140 or write to the above address, Attention: HFHD-16, Environment.

Sincerely yours,



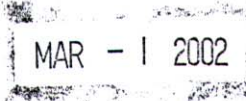
John Knowles  
Project Manager

Enclosures



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

Central Federal Lands Highway Division  
555 Zang Street  
Mail Room 259  
Lakewood, CO 80228



Refer To: HFHD-16

Mr. Kurt Broderdorp  
Fish and Wildlife Service  
764 Horizon Drive  
Grand Junction, CO 81506

Subject: Biological Assessment/Guanella Pass Road

Dear Mr. Broderdorp:

Enclosed is a copy of the Biological Assessment (BA) for the proposed project on Colorado Forest Highway 80, Guanella Pass Road. Since the BA determines that the project may affect, and is likely to adversely affect, a Federally threatened species, we are requesting initiation of formal consultation at this time. We are planning to publish the Final Environmental Impact Statement (FEIS) at the end of May, and it would be beneficial to include the results of this consultation. If that is not practical, the Record of Decision is scheduled for mid-July, and we would need to complete consultation for that document.

Also enclosed is a draft Biological Opinion with an electronic copy on floppy disk in Word Perfect format. If we can be of any other assistance, please do not hesitate to contact Mr. Robert Nestel, Environmental Biologist, at 303-716-2142 (email: [bnestel@road.cflhd.gov](mailto:bnestel@road.cflhd.gov)) or write to the above address, Attention: HFHD-16, Environment.

Sincerely yours

FOR Mr. John Knowles  
Project Manager

Enclosures

cc w/enclosure (BA): Ms. Jennifer Corwin, FHWA, Denver

cc: Donna Nickler

P.O. Box 1373  
 Fairplay, CO 80440  
 (719) 836-4201 (phone)  
 (719) 836-3273 (fax)  
 (303) 838-7509 (Metro)

# COUNTY OF PARK

## BOARD OF COMMISSIONERS



February 28, 2002

Mr. Larry Smith  
 Central Federal Lands  
 555 Zang St.  
 Lakewood, CO 80228

**COPY**

RE: USFS Preferred Alternative Road Surface Type for Guanella Pass

Dear Mr. Smith:

We have reviewed the December 21, 2001 letter from the USFS regarding their selection of macadam for the road on National Forest System lands and recognize the spirit in which their decision was made. Many years have been invested in this project. Most recently, representatives of local communities, the USFS and other interested parties have concluded a study with the finalization of a Corridor Management Plan. While the issue of surface type was not the main area of concern, the Plan contains recommendations regarding surface type(s) while at the same time acknowledging that 100% agreement was not reached among the various participants. Park County agrees that valid issues were highlighted, which included safety, the rustic landscape character, aesthetics associated with the road, sedimentation problems and water quality.

Park County, with an understanding of the needs of Park County's interest in the road, came to terms with interested parties, namely Tumbling River Ranch, regarding surface type. Park County is desirous of standing by the terms reached. The terms are described in a memorandum dated 07/12/2000 from Rick Peters, Road and Bridge Director. Of primary concern, is "that we do not make any improvements to the gravel road that passes through his (Tumbling River) ranch." The other main area of concern is that Tumbling River Ranch be allowed to continue its operation throughout the construction process. Park County stands by these terms. However, Park County must acknowledge the authorities and responsibilities of the USFS and Park County as delineated in a document dated August 21, 1987 entitled PUBLIC ROAD EASEMENT. Paragraph 3 states:

"Any reconstruction of the highway situated on this right-of-way shall conform with plans, specifications, and written stipulations approved by the Forest Supervisor or authorized representative prior to beginning such reconstruction."

REC'D  
 3/6/02

FS-02-063

Jerry Solberg  
 (719) 836-4210  
 (303) 838-7509 #210

Don O. Staples  
 (719) 836-4211  
 (303) 838-7509 #211

Leri Walker  
 (719) 836-4209  
 (303) 838-7509 #209

Paragraph 4 states:

“Consistent with highway safety standards, the Grantee shall:

- (a) Protect and preserve soil and vegetative cover and scenic and esthetic values on the right-of-way outside of construction limits.”

Inasmuch as the authority to determine the specifications for the road that passes through the U.S. Forestland land rests with the U.S. Forest Service, Park County cannot dictate the surface type for that portion of the road. Park County believes the selection of macadam as the preferred surface type for the road as it crosses forestland - with the exceptions of a gravel surface at the summit and a gravel surface for the road as it crosses land owned by Tumbling River Ranch to be a responsible and environmentally appropriate choice. Park County's preferred choice, however, is chip seal over a hardened surface. Park County recognizes that the difference between macadam and chip seal is the size of the rock being used as chips. A smaller “chip” is easier to maintain. With that said, we believe the fact that the surface type would be varied and will include gravel helps to address the concern that motorists might use the road as a high-speed connection between Georgetown and Grant. Park County recognizes that some individuals may not meet the USFS choice with overwhelming enthusiasm; but we believe it, combined with the strategies outlined in the Corridor Management Plan, gives us a County road that will be easier and more affordable to maintain, while at the same time addressing sediment and erosion issues.

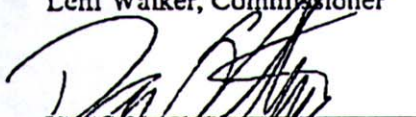
We hope that the FHWA will keep this project as a top priority and that we can continue to move forward with the environmental process.

Respectfully,

PARK BOARD OF COUNTY COMMISSIONERS

  
Jerry Solberg, Chairman

  
Leni Walker, Commissioner

  
Don O. Staples, Commissioner

cc: Clear Creek County Board of Commissioners  
Tumbling River Ranch  
James S. Bedwell, Forest Supervisor, Arapaho & Roosevelt National Forests  
Abigail R. Kimbell, Forest Supervisor, Pike and San Isabel National Forests  
Glenda Wilson, Director of Engineering, Rocky Mountain Region



File Code: 2360  
Date: 27 February, 2002

MR. STEPHEN HALLISY

US DOT FEDERAL HIGHWAYS ADMINISTRATION  
CENTRAL FEDERAL LANDS HIGHWAY DIVISION  
555 ZANG STREET,  
P.O. 25246  
DENVER, CO. 80225-0246

Dear Mr. Hallisy,

Thank you for the opportunity to review and comment on the latest cultural resources study for the Guanella Pass project ("A Second Addendum to an Intensive Resources Survey Along the Guanella Pass Road, Colorado Forest Highway 80, Park and Clear Creek Counties, Colorado", report prepared by Stephen J. Hallisy with contributions by Allen E. Kane). I have reviewed the document with particular attention to the resources managed by the U. S. Forest Service Arapaho and Pike National Forests; my comments (presented below) are the official response by the Forest Service to your request for review.

- A. Regarding National Register of Historic Places (NRHP) eligibility for the cultural properties potentially affected by implementation of the road improvement project. We (the Forest Service) concur with the recommendations in the Second Addendum regarding NHRP eligibility. Cultural properties SPA2002 and SPA2003/5CC1188, recorded during the most recent field investigations, are not eligible, as they possess no intrinsic historic associations or engineering and architectural values. Archeological deposits and items at both properties are very minimal. Cultural property 5CC861 (the Georgetown/Argentine & Snake River/Green Lake Wagon Road), originally recorded during the Walt investigation, also is not eligible. Only isolated segments of this road have survived to modern times, and therefore the resource has lost its integrity. The Guanella Pass prehistoric site (5CC70, originally recorded by the state Office of Archeology and Historic Preservation in 1979) is eligible or potentially eligible to the Register based the high potential for pertinent archeological information. The archeological potential of this site was verified after its original recording, first by Walt in 1997, and most recently by the preparers of the Second Addendum. Site 5CC3/5CC9 (the Colorado Central Railroad grade) has previously been determined eligible. Finally, the proposed Silverdale Parking Area is proposed for a location within the Georgetown – Silver Plume National Register District and will be partially built on old mining spoil. We agree that these spoil deposits do not contribute to the historic district in that they have been re-mined for use as road aggregate and do not possess any historic associations or archeological potential.
- B. Regarding effects of the project on historic properties. . The protection measures recommended for the vicinity of 5CC70, the Guanella Pass site, are adequate in the context of protecting archeological deposits and the derivative information. Therefore,



this property would not be affected by implementation of any proposed alternative. We concur with your recommendation that the only cultural property potentially affected by implementation of the project is the Colorado Central Railroad grade. If either the Georgetown bypass bridge site alternative or the temporary bypass bridge site alternative is selected, the Railroad grade may be adversely affected. The development of a Memorandum of Understanding containing a mitigation plan may be necessary to alleviate the effects. If a different alternative is selected, then a "no historic properties affected" determination is appropriate for implementation of the project.

Thank you for the opportunity to review the report and findings. If you wish to discuss the project in further detail, please contact me at our Pueblo office.

Sincerely,

A handwritten signature in black ink, appearing to read "Allen E. Kane". The signature is fluid and cursive, with the first name "Allen" being the most prominent.

Allen E. Kane  
Historic Preservation Officer

Cc: Donna Mickley, U.S. Forest Service Regional Office



# *The Town of Georgetown*

*P.O. Box 426  
Georgetown, Colorado 80444  
(303) 569-2555*

February 4, 2002

Jim Keeley, Director of Project Delivery  
Federal Highway Administration  
Central Federal Lands Highway Division  
555 Zang Street, Room 259  
Lakewood, CO 80228

Dear Mr. Keeley,

At the January 22, 2002 meeting of the Board of Selectmen, the Board discussed the Guanella Pass project particularly the road surface choices and the construction impacts on Georgetown.

As to the road surface choices, we understand that the US Forest Service is requiring macadam from Cabin Creek through the switchbacks above the Naylor Lake turnoff. The Town's preference in that area for gravel and macadam is based on the desire to control the speed and number of vehicles. The 224% increase in traffic volume projected with a "paved" surface is an unsustainable impact for Georgetown. The Board would be open to other methods of traffic control, however, we do not believe control should be based solely on a non permanent fee program. Increased curvature, dips and speed bumps might be control devices. In preserving the rural nature of the road the Board would also prefer to see an unstriped surface. How would this be possible on a macadam surface with the consideration of the Uniform Traffic Code?

Construction impacts are a major concern as Georgetown is a National Historic Landmark District with a seasonal economy and a delicate, aging, infrastructure. The FHWA recognized these difficulties in the attempt to arrange a temporary construction by-pass bridge. At issue is the impact of 1000 vehicles in each direction on our streets and bridges and their disruption of our commercial activities and residential life. As was repeatedly discussed with FHWA Project Engineer Mark Taylor, an asphalt overlay to our streets will not mitigate damage. In fact an overlay would add significantly to drainage difficulties.

The Town of Georgetown would anticipate:

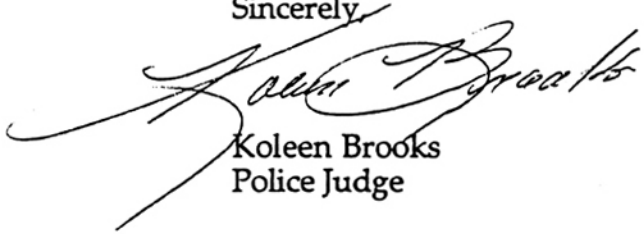
1. Connection of Guanella Pass drainage to the town system at 5th Street. This connection necessitates curb and gutter at town specifications from 2nd to 5th streets.
2. Agreement on a hauling route. The Board is suggesting consideration of a 7th Street bridge constructed by the FHWA. Vehicles would use Argentine/Brownell to 7th and cross to Rose or Argentine depending on the vehicle length. The bridge would be permanent. This route limits the number of bridges to one, meaning bridges on

Rose, 11th and 6th Streets would not have to be reinspected and rebuilt.

3. FHWA use of Argentine/Brownell Street will be extensive. This is the area proposed for Gateway improvement. Argentine Street between 15th and Loop Drive is to be moved west by a road width and lowered. The existing right-of-way width permits this change. A concept for the area was developed through public process and the town has requested bids for the final design. We anticipate the final design concept will be complete at the end of August 2002. FHWA work on Argentine Street should be consistent with the design and lower and move the road.

Please understand these considerations can not constitute an endorsement of the project by the Board at this time. Reactions from the Georgetown citizens to the current plan for Guanella Pass have not been sought for a number of months. A public discussion session is scheduled during the Selectmen meeting of February 12. The decision of the Board will rest on the input of the citizens.

Sincerely,



Koleen Brooks  
Police Judge

cc: Jennifoer Corwin, Environmental Protection Specialist  
John Knowles, Project Manager  
Clear Creek County Commissioners



# Clear Creek County

POST OFFICE BOX 2000  
GEORGETOWN, COLORADO 80444

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

January 17, 2002

Mr. Larry Smith  
Central Federal Lands  
555 Zang St.  
Lakewood, CO 80228

RE: USFS Preferred Alternative Road Surface Type for Guanella Pass

Dear Mr. Smith:

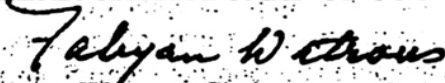
We have reviewed the December 21, 2001 letter from the USFS regarding their selection of macadam for the road on National Forest System lands and recognize the spirit in which their decision was made. During the last half of 2001 representatives of the local communities, of a wider constituency, and of the Forest Service worked many hours examining the issues of the Guanella Pass Corridor. The participants concluded their study with the finalization of a Corridor Management Plan. Although resolving the issue of surface type was not the main task of the group, their document includes recommendations regarding surface type and acknowledges that 100% agreement was not reached. We all, however, had the opportunity to thoroughly understand the various points of view and issues.

We believe the selection of macadam as the preferred surface type for the road as it crosses forest land – with the exceptions of a gravel surface at the summit and chip seal on steep switchbacks – is a socially responsible and environmentally appropriate choice. The fact that the surface type would be varied and will include gravel helps to address the concern that travelers might use the road as a high-speed connection between Georgetown and Grant. We recognize that the USFS choice may not be met with overwhelming enthusiasm by some individuals, but we believe it, combined with strategies outlined in the Corridor Management Plan, gives us a County road that will be easier and more affordable to maintain.

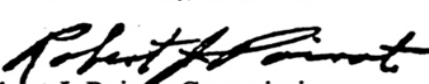
We hope that the FHWA will keep this project as a top priority and that we can continue to move forward with the environmental process.

Sincerely,

CLEAR CREEK BOARD OF COUNTY COMMISSIONERS

  
Fabyan Watrous, Chairman

  
Jo Ann Sorensen, Commissioner

  
Robert J. Poirôt, Commissioner

CLEAR CREEK BOARD OF COUNTY COMMISSIONERS

Larry Smith Letter, January 17, 2002

Page 2

cc: Jim Bedwell, Forest Supervisor, Arapaho and Roosevelt National Forests  
Abigail R. Kimbell, Forest Supervisor, Pike and San Isabel National Forests  
Park County Board of Commissioners  
Town of Georgetown Board of Selectmen  
Tumbling River Ranch  
Glenda Wilson, Director of Engineering, Rocky Mountain Region



United States  
Department of  
Agriculture

Forest  
Service

Arapaho and Roosevelt  
National Forests and  
Pawnee National Grassland

240 West Prospect Road  
Fort Collins, CO 80526  
Voice: (970) 498-1100 TDD: (970) 498-1025  
Web: [www.fs.fed.us/r2/arnf](http://www.fs.fed.us/r2/arnf)  
Fax: (970) 498-1328

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File Code: 7740

Date: December 21, 2001

Mr. Larry Smith  
Central Federal Lands  
555 Zang St.  
Lakewood, CO

Re: Guanella Pass Preferred Alternative Road Surface Type

Dear Mr. Smith,

Over the last year, we in the Forest Service have been committed to reaching agreement on key issues associated with the Guanella Pass Road improvement project. We have attended meetings and workshops and have invested resource specialist time in order to gain the greatest understanding of the issues at hand. We thank you for your efforts to reach consensus by all parties at your meeting on November 8<sup>th</sup>, 2001. We also wish to applaud the efforts of Park County and Clear Creek County to reach agreement. The tentative agreements reached at that meeting appeared promising, so we are disappointed that consensus has not been achieved on the key aspect of road surface type despite the collaborative efforts at the meetings or during the corridor management planning process. As a result, we in the Forest Service wish to state our position for the National Forest System lands that are included in the project area.

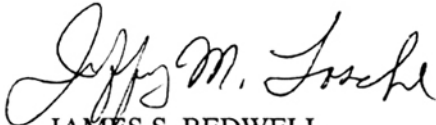
As stated during the meetings, the Forest Service believes the selected road surface must respond to a number of issues associated with Guanella Pass Road. These include safety, the rustic landscape character, and the aesthetics associated with the road, along with a primary concern for natural resources on National Forest System Lands. As documented in the hydrology report *Sedimentation Problems Identified on the Guanella Pass Road, October 25, 2001*, and presented in the meetings, sediment transport into nearby streams is a major concern. With the documented water quality impacts and the Counties indication that funds are not available to maintain a gravel-surfaced road to the standard needed to prevent stream sedimentation, it is unacceptable in our view to select any of the minimally stabilized gravel surface types. Therefore, it is our position that on the portions of the road that lie within National Forest System lands, the minimum standard and only acceptable stabilized gravel is macadam. At the same time we recognize the authority of the other jurisdictions to make decisions on lands they administer.

Of all the stabilized gravel surfaces, as defined in Alternate 6, macadam best responds to the issues listed above. We believe macadam can provide the desired rustic character while meeting sedimentation and water quality needs. It is not pavement, does not need to be striped, can appear quite rustic, and would not require the constant grading of gravel. Its defined edge and lack of continuous grading would allow vegetation to grow up to the road edge, resulting in a narrower appearance for the road. Macadam would not break down and erode into streams nor require nearly the amount of maintenance as the other stabilized gravel options. It seems irresponsible for us as stewards of public funds to support an investment (such as gravel surfacing) without assurance that it can be maintained, especially given the potential for streams to become Colorado State 303D listed because of road-generated sediment.

It should be recognized that our selection of macadam for the road on national Forest System lands represents a compromise from the optimum surface to minimize sedimentation. Considering the current and future levels of traffic, resource protection needs, and maintenance limitations, asphalt would be the more appropriate surface type. A member of your own FHWA staff acknowledged in the meeting on November 8<sup>th</sup> that asphalt would be the more appropriate surface type when considering the current and future levels of traffic, resource protection needs, and economic benefit. Given this, we should note the exceptions to our selection of macadam on National Forest segments: the steep switchbacks and "Shelf Road" sections where physical characteristic and maintenance concerns forged consensus on asphalt with a chipseal surface, and; the summit, relatively flat and far from the streams, where the less stabilized gravel types are acceptable.

In summary, we ask that you respect our position on road surface type for land within our jurisdiction and fully consider the above factors, along with your responsibility to wisely invest public funds when selecting the preferred alternative surface type on all segments of the Guanella Pass project.

Sincerely,



*JB*  
JAMES S. BEDWELL  
Forest Supervisor  
Arapaho and Roosevelt National Forests  
Pawnee National Grassland



ABIGAIL R. KIMBELL  
Forest Supervisor  
Pike and San Isabel National Forests  
Cimarron and Comanche  
National Grasslands

cc:

Park County Board of Commissioners  
Clear Creek County Board of Commissioners  
Town of Georgetown Board of Selectmen  
Tumbling River Ranch  
Glenda Wilson, Director of Engineering, Rocky Mountain Region

# The Town of Georgetown

P.O. Box 426  
Georgetown, Colorado 80444  
(303) 569-2555

James W. Keeley, Director of Project Delivery  
Federal Highway Administration  
Central Federal Lands Highway Division  
555 Zang Street, Room 259  
Lakewood, CO 80228

October 25, 2001

Dear Mr. Keeley,

The Town of Georgetown has actively participated in the discussions of the Guanella Pass Road improvements for the last nine years through the administrations of Mayors Tharp, Clark, Claus, Cookson and into the present. The Town has repeatedly expressed major concerns with the project. The most immediate concern is that five years of construction impacts would overwhelm our town streets and have negative effects on commerce and residential life. The long range concern is that the traffic increase on our narrow streets be limited and the rural and recreational nature of the road be preserved. As stated in the 2/5/01 letter to the US Forest Service, "The Town of Georgetown is not simply a gateway community. It is literally the gate, and the gate is tight . . . . Georgetown is concerned that the top fit the entrance."

The Town of Georgetown has repeatedly supported ideas that would limit the Guanella Pass use, such as no extension of asphalt based surfacing, minimal road improvements, and seasonal gated closure in the summit area. The Board of Selectmen have supported routing construction vehicles around our sensitive National Historic Landmark District commercial and residential structures. Unfortunately, all of these issues are, as yet, unresolved.

At the regular meeting of the Board of Selectmen on October 23, 2001, the present Board unanimously reiterated this position. The Town of Georgetown will not support a build alternative for Guanella Pass Road until the issues involving construction impacts and development of the upper road are resolved. The Board of Selectmen, once again, indicated their support of non asphalt surfacing where non asphalt currently exists and seasonal gated closure of the summit. The Board looks forward to a decision from the US Forest Service on their "modifications" to Alternative 6, a resolution of the seasonal closure issue, and a workable plan for construction impacts. As all previous Boards have indicated, when there is a final package to be presented to the public the Board of Selectmen intends to hold a Public Hearing for Georgetown citizens and property owners to assist the Board in a final decision.

Again, we appreciate the opportunity to participate in the Environmental Impact process. The Guanella Pass Road has daily impact on our lives.

Sincerely,

Koleen Brooks  
Mayor



cc: Clear Creek County Commissioners



U.S. Department  
of Transportation  
Federal Highway  
Administration

Central Federal Lands Highway Division  
555 Zang Street  
Mail Room 259  
Lakewood, CO 80228

JUN 19 2001

Refer To: HPD-16

Ms. Glenda Wilson  
Director of Engineering  
US Forest Service  
Rocky Mountain Region 2  
PO Box 25127  
Lakewood, CO 80225-0127

Dear Ms. Wilson:

Recent discussions between the US Forest Service (FS) and the Federal Highway Administration (FHWA) staffs have raised the following questions regarding the use of Forest Highway Funds with respect to the Guanella Pass Road Improvement Project. Enclosed for your reference is a memorandum, dated April 30, 1997, discussing FHWA's position regarding the issue of charging user fees on roads using Forest Highway (Title 23 U.S.C. 301) funds. Hopefully, the enclosed memorandum and the information provided in this letter will furnish you with the needed clarification of this issue. Below are answers to some of the specific questions that have arisen during recent meetings:

1. *Can Forest Highway Funds be used for road projects accessing FS lands where a fee is charged by the FS upon entering the FS lands?*

Forest Highway (Title 23) Funds may not be used on roads where fees are charged for merely using the road. Traffic traveling straight through, not using FS lands, cannot be charged a fee.

2. *Can Forest Highway Funds be used for road projects accessing FS lands where a fee is charged by the FS to use the FS lands accessed by the road?*

Forest Highway Funds may be used on roads where the FS charges a fee for the use of FS lands that are accessed by the road.

3. *Can Forest Highway Funds be used for road projects accessing FS lands where a fee is charged and a permit is required for the use of designated parking areas and pullouts? This condition is slightly different from the condition described in question 2 because people using the pullouts and parking areas are not necessarily recreating. They simply may be using the bathrooms or reading the interpretive signs.*



If the Guanella Pass Area meets the requirements to function as a "Recreational Fee Demonstration Program" (see enclosed public law), Title 23 restrictions on charging fees do not apply. As a result, if the FS has the authority to charge for use of designated parking areas (for whatever reason), they may do so, even if those parking areas and the interpretive signs and bathrooms that can be accessed were built with Title 23 funds.

If the Guanella Pass Area cannot be classified as a "Recreational Fee Demonstration Program" under Public Law 104-134 or a similar statute, and the parking areas and pullouts were built using Title 23 funds, then it is most likely the case that fees cannot be charged for merely parking in these areas. A fee could be charged only if the individuals leave their cars and access the Forest Lands.

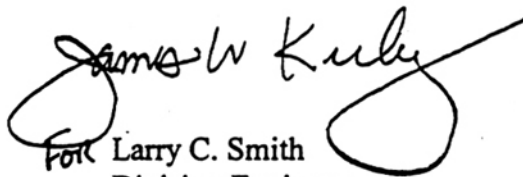
If the Guanella Pass Area cannot be classified as a "Recreational Fee Demonstration Program" and the parking areas and pullouts were NOT built using Title 23 funds, then the FS may be able to charge for use of the parking area (depending on the wording of the authority that gives the FS this right), but charging to use the pullouts may not be permitted given that the pullouts are located within the road ROW. This issue would require further examination and discussion.

4. *Can Forest Highway Funds be used for road projects where the FS implements road closures once the area accessed by the road has reached capacity for human use?*

Forest Highway Funds may be used on roads where the FS implements occasional road closures for the purpose of preventing overuse of the areas accessed by the road, provided that all of the cooperating agencies agree to the method of collection or closure. The FHWA would like to point out that because Guanella Pass is a public, *i.e.* city and county road, it does not appear that the FS has unilateral authority to charge a fee or close the road for resource management purposes. Therefore, any charges or closures would have to be agreed to by the cooperating agencies.

Should you have any further questions regarding this or other issues, please do not hesitate to contact me at 303-716-2002 or Mr. Jim Keeley at 303-716-2099.

Sincerely yours,

  
for Larry C. Smith  
Division Engineer

Enclosure

cc: James Bedwell, Forest Supervisor, Arapaho & Roosevelt NF, 240 West Prospect, Fort Collins, CO 80526

Abigail Kimbell, Forest Supervisor, Pike & San Isabel NF, 1920 Valley Dr, Pueblo, CO 81008

bc: J. Keeley

J. Rippley

J. Knowles

M. Taylor

R. Cushing

J. Corwin

yc: reading file

Central File - CO 80 (Guanella Pass Road)

JCORWIN:jm:6/14/01:L:\Environ\WP\CO80\Correspondence\Fhfunfs601.doc



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

Central Federal Lands  
Highway Division

555 Zang Street, Room 259  
Lakewood, CO 80228-1010

June 14, 2001

In Reply Refer to: HCO-16

Mr. Paul McKenna  
Town Administrator  
Town of Georgetown  
P.O. Box 426  
Georgetown, CO 80444

Dear Mr. McKenna:

Subject: Questions Raised at Preconstruction Conference on June 11, 2001

In reference to the question posed by Selectman Ms. Coralie Anderson concerning the liability for private property damage which may occur during this project, we offer the following references for explanation:

- For damage to person(s) or property that may arise against the contractor in the performance of this contract, general legal requirements for liability insurance carried by the contractor are detailed in the *Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects (FP-96)*. {**Ref §107-Legal Relations and Responsibility to the Public**} Specifically, this is detailed in FP-96 §107.05 - **Responsibility for Damage Claims** for injury or damage to person(s) or property resulting from negligent performance of the contract. Limits/minimum insurance coverage levels are further detailed in this section.
- Damages to person(s) or property that may arise against the Federal Highway Administration in the execution of this contract are governed by **Federal Tort Claims Act (28 USC §1346)**.

The other question posed by Selectman Ms. Coralie Anderson was concerning the payment to business owners in Georgetown for the potential loss of profit/income as a result of the haul traffic for this project. It was addressed at the preconstruction meeting that the FHWA does not provide for compensation to business owners for loss of business during construction periods.

- There are several court cases that have addressed this through the claim of lost business/profit by a business owner during temporary loss of access during road improvement projects. The courts' decisions detail that inconvenience and damage which property owners suffer as a result of temporary obstructions caused by improvements or repairs must be endured. The courts stress that "...as long as the work is lawful, and is pursued with reasonable diligence, liability for damages to those whose access is temporarily restricted does not attach." **Lewis v Globe Constr. Co. (1981) 6 Kan App 2d 478.**

Sincerely yours,

**JOHN C. STITES**

John C. Stites, P.E.  
Construction Operations Engineer



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

Central Federal Lands Highway Division  
555 Zang Street  
Mail Room 259  
Lakewood, CO 80228

**JUN 05 2001**

Refer To: HPD - 16.5:jcorwin

Subject: Guanella Pass Test Strips

Dear Interested Citizens, Organizations, and Government Agencies:

As part of the continuing effort to address public concerns regarding the Guanella Pass Road Improvement Project (Project), the Federal Highway Administration (FHWA) is announcing that the construction of road surfacing test strips south of Cabin Creek hydroelectric power plant on Guanella Pass Road, will begin in late June. The purpose of these test strips is to provide a demonstration of the five different surface types that are presently being considered for most of the existing gravel sections (except for the Shelf Road section) in the Guanella Pass Road Improvement Project. The sixth test strip, chip seal, is being considered as surfacing for the asphalt pavement portions of Guanella Pass Road and the existing gravel section along Shelf Road in Park County.

Construction of these test strips will last approximately three weeks. All activities associated with the construction will occur Monday through Friday during daylight hours. Various construction equipment, primarily 18-wheel tractor-trailer trucks and 10-wheel dump trucks, will be used for this construction, and approximately 200 round trips will be required through the town of Georgetown to haul the needed equipment and materials during the course of this construction. Any damage to the existing road caused by the construction of the test strips will be repaired by FHWA.

A sign will be posted beside each test strip indicating the surface type used for that test strip. Once construction of the test strips is complete a comment period will begin during which the public will have the opportunity to drive over and experience the test strips and provide their comments to FHWA regarding the different surface type. It is anticipated that the comment period will end August 31, 2001. Please send your comments to Mr. Rick Cushing at Central Federal Lands Highway Division, 555 Zang Street, Room 259, Lakewood, Colorado 80228.

Vibration monitoring studies will be done during the hauling period. Measurements will be made at various locations along the haul route in Georgetown, which will enable the FHWA to better evaluate the effects of construction hauling on historic structures.

Prior to the commencement of construction, FHWA and its construction subcontractors will meet with the Georgetown Administrator to coordinate all construction hauling activities and the vibration study.

If you have any comments or questions regarding the construction activities associated with the test strips please contact Mr. John Knowles at 303-716-2149.

Sincerely yours,

*1s/ Heidi S. Hirsbrunner*

*for*

James W. Keeley, P.E.  
Director, Project Delivery



U.S. Department  
of Transportation  
Federal Highway  
Administration

Central Federal Lands Highway Division  
555 Zang Street, Mail Room 259  
Lakewood, CO 80228

MAY 24 2001

Refer To: HPD 16.5 - environ:jcorwin

To Cooperating and Interested Agencies of the Guanella Pass Road Improvement Project:

The purpose of this letter is to inform you that the Federal Highway Administration (FHWA) will be conducting geotechnical tests for three possible material source sites along Guanella Pass Road during late May and early June of this year. The purpose of these tests is to determine the extent and quality of the material at these sites and whether it would be suitable for use on the proposed Guanella Pass Road Improvement Project (Project). If the aggregate material at these sites is of sufficient quality and quantity, this may preclude the need and/or reduce the amount of construction trucks needed to haul aggregate in through Georgetown and Grant for Project.

The sites to be tested are located near Duck Lake, the former Geneva Ski Basin parking lot, and the switchback just south of Naylor Lake. All three of these sites and the access to them are located on U.S. Forest Service (USFS) property. The FHWA has acquired a special use permit from the USFS to perform this work. Equipment used for this testing includes a drill rig and, possibly, one or more pick-up trucks.

Should you have any questions or comments regarding this procedure, please contact me at 303-716-2149.

Sincerely yours,

A handwritten signature in black ink, appearing to read "John Knowles". The signature is fluid and cursive, with the first name "John" and last name "Knowles" clearly distinguishable.

John Knowles  
Project Manager

Ms. Ann Skinner, Environmental Planner  
18500 E. Colfax Avenue  
Aurora, CO 80111

Ms. Donna Mickley  
Special Projects Coordinator  
Rocky Mountain Region 2  
PO Box 255127  
Lakewood, CO 80225-0127

Mr. Dan Lovato, District Ranger  
Clear Creek Ranger District  
Arapaho & Roosevelt National Forest  
101 Chicago Creek, PO Box 3307  
Idaho Springs, CO 80452

Mr. Randy Hickenbottom, District Ranger  
South Platte Ranger District  
Pike and San Isabel National Forest  
19316 Goddard Ranch Court  
Morrison, CO 80465

Mr. Bert Weaver, Planning Director  
Clear Creek County Courthouse  
PO Box 2000  
Georgetown, CO 80444

Mr. Robert Poirot, Chairman  
Clear Creek County Commissioner  
PO Box 2000  
Georgetown, CO 80444

Ms. JoAnn Sorensen  
Clear Creek County Commissioner  
PO Box 2000  
Georgetown, CO 80444

Ms. Fabyan Watrous  
Clear Creek County Commissioner  
PO Box 2000  
Georgetown, CO 80444

Mr. Jerry Solberg  
Park County Commissioner  
PO Box 220  
Fairplay, CO 80421

Mr. Don Staples  
Park County Commissioner  
PO Box 220  
Fairplay, CO 80440

Ms. Leni Walker  
Park County Commissioner  
PO Box 220  
Fairplay, CO 80421

Mr. Rick Peters, Director  
Park County Road and Bridge  
PO Box 147  
Fairplay, CO 80440

Ms. Koleen Brooks  
Mayor of Georgetown  
City of Georgetown  
PO Box 426  
Georgetown, CO 80444

Mr. Paul McKenna  
Georgetown Administrator  
PO Box 426  
Georgetown, CO 80444

Ms. Coralie Anderson  
Georgetown Selectman  
PO Box 426  
Georgetown, CO 80444

Ms. Christine Bradley  
Georgetown Selectman  
PO Box 426  
Georgetown, CO 80444

Ms. Brook Buckley  
Georgetown Selectman  
PO Box 426  
Georgetown, CO 80444

Ms. Kathy Hoelt  
Georgetown Selectman  
PO Box 426  
Georgetown, CO 80444

Ms. Sherry McCann  
Georgetown Selectman  
PO Box 426  
Georgetown, CO 80444

Mr. Edwin Tomasi  
Georgetown Selectman  
PO Box 426  
Georgetown, CO 80444



U.S. Department  
of Transportation  
Federal Highway  
Administration

Central Federal Lands Highway Division  
555 Zang Street  
Mail Room 259  
Lakewood, CO 80228

**MAY 15 2001**

Refer To: HPD-16.5 Environment:jcorwin

Ms. Glenda L. Wilson  
Director of Engineering  
US Forest Service  
PO Box 25127  
Lakewood, CO 80225-0127

Dear Ms. Wilson:

Thank you for your correspondence dated April 12, 2001. Included in your correspondence was a copy of a letter from Jim Bedwell, Forest Supervisor for the Arapahoe and Roosevelt National Forest and Gail Kimbell, Forest Supervisor for the Pike and San Isabel National Forest. In the letters they requested funding assistance from the Federal Highway Administration (FHWA) for the completion of Corridor Management Strategy (CMS) for Guanella Pass Road.

It is FHWA's understanding that the CMS will be considering a variety of management strategies. These management strategies range from developing a heavily-managed, park-like atmosphere with a fully paved road and fully-developed road-side facilities, to a more rustic atmosphere where, eventually, the road at the top of the pass would be permanently closed to the public. It is FHWA's position that funding of appropriate road improvements would remain eligible under the Public Lands Highway Program for any of the management strategies described in the CMS, assuming that no substantial additional environmental work would be needed.

In the letters, Mr. Bedwell and Ms. Kimbell estimated that \$77,000 would be needed from the FHWA to fund a consultant, ERO Resources, to facilitate public involvement, citizen committee meetings, and finalize stakeholder commitments in the completion of the CMS. Also, Mr. Bedwell and Ms. Kimbell estimated that another \$12,000 would be needed to fund a Forest Service Landscape Architect to develop conceptual designs to be included in the CMS. It is my understanding that these conceptual designs are for proposed parking facilities along Guanella Pass Road.

On April 25, 2001, Ms. Jennifer Corwin of FHWA and Ms. Anjie Saunders of ERO Resources successfully completed negotiations of the Contract Task Order for services required to complete the CMS. The final cost amount negotiated for ERO Resources' services was \$90,406, a 16 percent increase over the Forest Supervisors' estimate. The Contract Task Order was signed by Aileen China, FHWA Contracting Officer, on April 26, 2001. A copy of the Contract Task Order is enclosed.




Please note the ambitious project schedule for the completion of the CMS. A Final CMS is expected to be completed by August 1, 2001. This tight time schedule is due to the request made by some of the cooperating agencies for the Guanella Pass Road Improvement Project to complete the CMS prior to their approval of the road improvement project. Because the Guanella Pass Road Improvement Project is, itself, on a very tight time schedule, prompt completion of the CMS is crucial. The FHWA appreciates the efforts made by you, the Forest Supervisors, and Forest Service staff to ensure the timely completion of the CMS.

With respect to the funding of the Forest Service landscape architect, FHWA and USFS staffs are currently developing a reimbursable agreement for the preliminary design services of the roadside parking facilities. The FHWA hopes to have the reimbursable agreement signed by the end of May.

Should you have any comments or questions regarding the enclosed Contract Task Order or any other issues regarding FHWA's role in the funding of the CMS, please contact me at, 303-716-2002 or Ms. Jennifer Corwin, Environmental Protection Specialist, at 303-716-2097. In the same cooperative spirit demonstrated so far, I look forward to working with you and your staff in the completion of the CMS and, also, the completion of the Guanella Pass Road Improvement Project.

Sincerely yours,

ORIGINAL SIGNED BY  
LARRY C. SMITH   
Larry C. Smith, P.E.  
Division Engineer

Enclosure

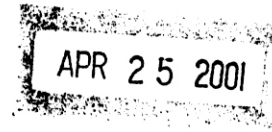


U.S. Department  
of Transportation  
**Federal Highway  
Administration**

Central Federal Lands  
Highway Division

555 Zang Street, Room 259  
Lakewood, CO 80228

In Reply Refer To:  
HPD-16



Agencies, Organizations, and Citizens:

Enclosed for your review is a copy(s) of the SDEIS Summary of Comments Report (Report) prepared for the Guanella Pass Road Improvement Project (Project). The purpose of the Report is to provide a general overview of the nature of the comments received regarding the Project. In addition to summarizing the SDEIS comments, the Report also includes an explanation of how the comments were evaluated and an appendix containing all of the public hearing and written comments received.

Should you have any questions or comments regarding this Report, please contact Ms. Jennifer Corwin at 303-716-2097. Thank you for your continued interest in this Project.

Sincerely yours,

Richard Cushing.  
Environmental Planning Engineer

Enclosure(s)

P.O. Box 1373  
Fairplay, CO 80440-1373  
(719) 836-4201 (phone)  
(719) 836-3273 (fax)  
(303) 838-7509 (metro)

# COUNTY OF PARK

## BOARD OF COMMISSIONERS



April 18, 2001

Mr. James W. Keeley  
Central Federal Lands Highway Division  
555 Zang Street, Mail Room 259  
Lakewood, CO 80228

Dear Mr. Keeley:

At the last meeting we attended in Clear Creek, you had asked for a commitment from all the agencies involved with Guanella Pass before the FHWA would commit any additional funds toward this project. As we recall, there were a few questions that we asked our Road and Bridge Director to address, so we could give you an answer.

We have since received your response regarding the phone conversation on February 14, between Mr. Rick Peters, Director of Park County Road and Bridge Department and Ms. Jennifer Corwin, Environmental Protection Specialist for the Federal Highway Administration; we have unanimously concluded that we will support a road project for Guanella Pass.

It is the opinion of the Park County Board of County Commissioners that there is one vital part of information still missing. This would be the corridor management plan that the Forest Service is putting together. It would be premature to decide on an alternative until we have a chance to review this document. We feel that we must make sure the needs of the Forest Service are addressed.

We would like to thank you and your staff for the hard work you have done toward this project. It seems that we are coming closer to a decision and we look forward to making this project a reality.

Sincerely,

Park County Board of County Commissioners

Cc: Rick Peters, Director, Park County Road and Bridge Department  
Clear Creek Board of County Commissioners, PO Box 2000, Georgetown, CO 80444  
Mayor, City of Georgetown, PO Box 426, Georgetown, CO 80444  
Donna Mickley, Special Projects Coordinator, USFS, Region 2, PO Box 25127, Lakewood CO, 80225-0127  
Ann Skinner, Colorado DOT, 18500 E. Colfax Avenue, Aurora, CO 80011

Leni Walker  
(719) 836-4209

Jerry Solberg  
(719) 836-4210

Don O. Staples  
(719) 836-4211

# *The Town of Georgetown*

*P.O. Box 426  
Georgetown, Colorado 80444  
(303) 569-2555*

April 13, 2001

Federal Highway Administration  
Central Federal Lands Highway Division  
555 Zang Street  
Mail Room 259  
Lakewood, Colorado 80228

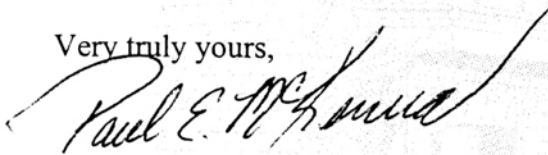
Attn: Larry C. Smith, P.E.  
Re: Request for temporary easement for vehicles in Silverdale

Dear Mr. Smith,

The Board of Selectmen met on Tuesday, April 10, 2001 to discuss the request for a temporary easement by the FHWA. The Board first and foremost would like to convey their appreciation for addressing alternative sites for materials along the road consequently lessening construction impacts to the Town itself. Unfortunately, this particular site would not be the Town's choice for accomplishing the aforementioned desired goals. At this time, the Town would agree and support the Historic District Public Lands Commission concerns regarding this particular area. Therefore, the Town is forced to deny access to said property.

The Town would like to work with FHWA to find alternate sites for material extraction that would result in substantially less environmental and cultural resource damage. Thank you for your consideration in this matter.

Very truly yours,



Paul E. McKenna,  
Town Administrator

Federal Highway Administration  
~~Proposed Colorado Forest Highway XI~~  
~~TANNAH CREEK ROAD~~  
GUANELLA PASS ROAD  
TEMPORARY PERMIT TO ENTER

Permission is hereby requested for the Federal Highway Administration (FHWA), and its authorized agents, to enter upon and cross your property to access the proposed materials site located on Mr. Kent Sterrett's property northeast of the Georgetown Reservoir to perform the following work discussed in the cover letter to this document:

- 1) Materials Testing
- 2) Cultural and Historical Survey
- 3) Biological Survey
- 4) Wetland Survey
- 5) Hazardous Material Survey

The landowner will not be held liable if FHWA personnel, or the FHWA's authorized agent's personnel, are injured while crossing the landowner's property. Furthermore, the FHWA agrees to assume responsibility for any damages caused by the FHWA's operations under this agreement and will, at the FHWA's option, either repair such damage or restore to the original condition.

The granting of access permission for the above-designated purposes in no way indicates a willingness to sell right-of-way for the road construction. This permission is temporary, only for the above purpose(s), and will terminate within two (2) years of the signing of this document or upon completion of the above described work, whichever occurs first.

CHECK ONE OF THE FOLLOWING:

PERMISSION FOR THE ABOVE DESCRIBED WORK IS HEREBY: GRANTED   
DENIED

Owner(s) Name(s), Address(es), and Telephone(s)

Signed this 13<sup>th</sup> day of April, 2001.

Signature

Town of Georgetown  
Koleen Kaye Brooks  
Printed Name Police Judge

Box 426  
Street or P.O. Box Address  
Georgetown CO 80444-0426  
City State Zip Code  
303-569-2555

Telephone Number

Business Name (if applicable)

Signature

Printed Name

Street or P.O. Box Address

City State Zip Code

Telephone Number

Business Name (if applicable)



United States  
Department of  
Agriculture

Forest  
Service

Rocky  
Mountain  
Region

P.O. Box 25127  
Lakewood, CO 80225-0127  
Delivery: 740 Simms Street  
Golden, CO 80401  
Voice: 303-275-5350  
TDD: 303-275-5367

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File Code: 7740

Date: April 12, 2001

Mr. Larry Smith  
Division Engineer  
Federal Highway Administration ~ Central Federal  
Lands Highway Division  
555 Zang St.  
Lakewood, CO 80228

Re: Guanella Pass Corridor Management Strategy

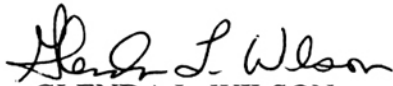
Dear Mr. Smith:

Thank you for hosting the meeting in December 2000 to continue working on the Guanella Pass Project. Since the December meeting there have been many accomplishments and gains toward project completion including:

- Strengthening our partnerships with Park County, Clear Creek County and Georgetown.
- Completion of the Draft Corridor Management Strategy.
- Field reviews to initiate conceptual site designs.
- Commitment to provide on-site aggregate material and develop operating and rehabilitation plans.

The next step is finalization of the management strategy. Attached is a request from Jim Bedwell, Forest Supervisor Arapahoe and Roosevelt National Forest and Gail Kimbell, Forest Supervisor Pike and San Isabel National Forest for completion of the management strategy. I am forwarding this request in support of continued coordination between Federal Highway Administration and the Forest Service.

Sincerely,

  
GLENDA L. WILSON  
Director of Engineering

cc: James Bedwell, AR-SO  
Debra Schofield, AR-SO  
Daniel Lovato, AR-CCRD

Abigail Kimbell, PSICC-SO  
Randy Hickenbottom, PSICC-SPLRD  
Donna Mickley, RO



United States  
Department of  
Agriculture

Forest  
Service

Arapaho and Roosevelt  
National Forests and  
Pawnee National Grassland

240 West Prospect Road  
Fort Collins, CO 80526  
Voice: (970) 498-1100 TDD: (970) 498-1025  
Web: [www.fs.fed.us/r2/arnf](http://www.fs.fed.us/r2/arnf)  
Fax: (970) 498-1328

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File Code: 7740 Guanella Pass  
Scenic Byway

Date: April 12, 2001

Mr. Larry Smith  
Division Engineer  
Central Federal Lands Highway Division  
555 Zang Street  
Lakewood, CO 80228

Re: Guanella Pass Corridor Management Strategy

Dear Mr. Smith:

During the past year, considerable progress has been made within the Forest Service on the Guanella Pass project. With a project coordinator, the Forest Service has been well represented at work group sessions and public meetings. The agency has also committed funding not only for the coordinator but also interdisciplinary teams to represent both the Pike and the Arapaho National Forest.

The most recent accomplishment is the compilation of a Draft Corridor Management Strategy (CMS) that included involvement from both Park and Clear Creek counties, Georgetown, and the Colorado Scenic and Historic Byway commission. The next step is public involvement and stakeholder agreement. The outcome will provide a mutual benefit of understanding to all interested parties.

In support of this project a consultant is being requested to facilitate public involvement, citizen committee meetings, and finalize stakeholder commitments. Conceptual site designs will be included in the final document.

The tasks to be complete are:

1. Technical and peer review of the draft CMS prior to public distribution.
2. Facilitation of public involvement process including citizen committee meetings.
3. Finalize the document.
4. Develop conceptual designs for agreed upon sites.

Estimated costs:

Consultant - \$77,000

Forest Service Landscape Architect - \$12,000



United States  
Department of  
Agriculture

Forest  
Service

Arapaho and Roosevelt  
National Forests and  
Pawnee National Grassland

240 West Prospect Road  
Fort Collins, CO 80526  
Voice: (970) 498-1100 TDD: (970) 498-1025  
Web: [www.fs.fed.us/r2/arnf](http://www.fs.fed.us/r2/arnf)  
Fax: (970) 498-1328

---

Thank you for supporting this proposal. With Federal Highway and Forest Service commitment to this partnership the goal to complete the Guanella Pass Project is in sight.

Sincerely,

/s/ James S. Bedwell  
JAMES S. BEDWELL  
Forest Supervisor,  
Arapaho and Roosevelt  
National Forests and  
Pawnee National Grassland

/s/ Abigail R. Kimbell  
ABIGAIL R. KIMBELL  
Forest Supervisor,  
Pike and San Isabel National Forest  
Cimarron and Comanche Grassland

cc:  
Daniel Lovato, CCRD  
Randy Hickenbottom, SPLRD  
Donna Mickley, RO



GEORGETOWN SILVER PLUME HISTORIC DISTRICT PUBLIC LANDS  
COMMISSION

c/o Clear Creek County Administration  
Box 2000 Georgetown, CO 80444  
Tel: 303 679 2309

Clear Creek County, Clear Creek Ranger District USFS, Colorado Division of  
Wildlife, Colorado Historical Society, Town of Georgetown, Town of Silver Plume,  
Historic Georgetown Inc.

\*\*\*\*\*

March 30, 2001

To: Town of Georgetown, Board of Selectmen  
Box 426  
Georgetwon, CO 80444

Re: FHWA Request for temporary easement for vehicles in Silverdale

Dear Board members,

It has been brought to the attention of the Historic District Public Lands Commission (HDPLC) that the FHWA is requesting an easement across your properties in Silverdale to assess the potential of a gravel pit in the area to supply the Guanella Pass road project. We further understand that the easement would include the construction of a vehicle bridge into Silverdale and that, should the gravel site prove out, a potential of 10,000 semi truck trips could occur through Silverdale.

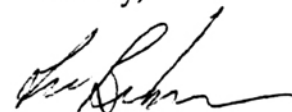
Since its inception the HDPLC has identified Silverdale as a prime area for non motorized recreation including hiking, snowshoeing, cross country skiing and picnicking. The area is heavily used on a local basis for these activities. These activities seem appropriate given the vast majority of the land is in public or private non-profit ownership. Low impact recreation was deemed particularly important in this area as there are significant resources to protect. The Silverdale townsite and cemetery are on the State Inventory of Historic Places and the potential gravel site is within the National Historic Landmark District. The location of the crossing is in the Georgetown reservoir and wetland and in identified boreal toad habitat, a federal candidate species and listed as endangered by the State of Colorado. The entire project is within the Georgetown Watershed Protection District. Although the FHWA will adhere to the strict controls on an easement, once vehicle access is established to Silverdale's myriad of long abandoned wagon roads it will be uncontrollable.

The HDPLC certainly understands and concurs with the need to lessen construction impact on Georgetown by locating material sites along the road. The FHWA has identified at least two other potential sites for gravel within the Guanella Pass corridor. Those sites are more directly accessible from the road and would result in substantially less environmental and cultural resource damage.

In consideration of the water, wildlife, recreation and cultural resource issues, the HDPLC urges its member agency, the Town of Georgetown, to deny the request for temporary easement in Silverdale and request that the FHWA direct their efforts toward more plausible sites.

All agencies have been active participants in the HDPLC and appreciate the cooperative management of the lands. The next HDPLC meeting on May 16 will include an on-site review of Silverdale. Any of your board members are welcome to attend.

Sincerely,

A handwritten signature in black ink, appearing to read "Lee Behrens", with a long, sweeping horizontal stroke extending to the right.

Lee Behrens  
Chairman



U.S. Department  
of Transportation  
Federal Highway  
Administration

Central Federal Lands Highway Division  
555 Zang Street, Mail Room 259  
Lakewood, CO 80228

MAR 30 2001

Refer To: HPD-16.5:jcorwin

Park County Commissioners  
Park County Government  
PO Box 220  
Fairplay, CO 80440

Attn: Commissioner Jerry Solberg

Dear Commissioners:

This is in response to a phone conversation on February 14, between Mr. Rick Peters, Director of Park County Road and Bridge, and Ms. Jennifer Corwin, Environmental Protection Specialist for the Federal Highway Administration (FHWA), during which Mr. Peters requested that Ms. Corwin research a number of questions the Park County Commissioners had regarding the Guanella Pass Project. Below are FHWA's responses to these questions:

- 1) *What responsibilities does the Clean Water Act place on owners of roads, like counties, particularly with respect to erosion and sedimentation control?*

The Clean Water Act identifies two different general sources of pollution to water resources: 1.) point source discharge, and 2.) non-point source discharge. Stream and lake sedimentation occurring due to road run-off is a non-point discharge. Local road management agencies in Colorado, such as the counties, are not required by the federal government or the State of Colorado to carry out any actions to address erosion and sedimentation impacts resulting from road run-off. Implementation of remediation measures and best management practices to address or prevent soil erosion and sedimentation from road surfaces are done on a strictly voluntary basis.

However, Ms. Laurie Fisher, who administers the Non-Point Source Program for the Colorado Department of Public Health and Environment, stresses that the counties still can be sued for impairment of water quality resulting from road run-off. If it should be found that inadequate road maintenance procedures and/or the mere nature of the road itself impairs the quality of a nearby water resource to the extent that the water resource of concern cannot accommodate the beneficial functions that it should supposedly support, the county could be held liable and required to pay penalties and the costs of restoring the quality of the impacted water resource. Ms. Fisher said that the county should consult with its legal counsel to confirm this interpretation. Should you wish to speak with Ms. Fisher, she can be reached at 303-692-3570.

2) *What were the circumstances associated with the lawsuit filed by the Sierra Club regarding the Pikes Peak Road?*

According to Ms. Abigail Kimbell, the Forest Supervisor of the Pike and San Isabel National Forest, there are actually three lawsuits regarding Pikes Peak Road. Below is information Ms. Kimbell sent to our office regarding these lawsuits:

1. In March 1998, the Sierra Club filed suit based on allegations that the Forest Service failed to obtain certification from the State of Colorado pursuant to S. 401 of the Clean Water Act when in 1990 it issued a special use permit to the City of Colorado Springs for operation and maintenance of the Pikes Peak Highway and when in 1997, it amended the special use permit and approved budgets and operating plans.
2. In August 1998, the Sierra Club added the City as defendant. (Also in August 1998, the City applied for a 401 permit.)
3. In September 1998, the City filed a cross claim against the Forest Service seeking contribution and/or indemnity from the Forest Service in the event the City is found liable to the Sierra Club in this Action.

The Forest Service and the Sierra Club are continuing to work towards settlement in #1.

The City and Sierra Club settled the second lawsuit with a consent decree dated February 9, 2000, wherein the City will allocate \$300,000 for remediation of sediment being discharged into waters of the US through measures specified by the Forest Service.

The attorneys are still working on discovery in #3.

For more information regarding these lawsuits, please contact Ms. Abigail Kimball at 719-545-8737.

Ms. Donna Mickley, the Forest Service Special Projects Coordinator for the region, informed FHWA that the erosion and sedimentation concerns associated with the first lawsuit differ from the conditions along the Guanella Pass Road in that the sedimentation resulting from the cut and fill slopes of Pikes Peak Road is primarily granitic in nature. This type of sediment is relatively large (pebble-sized) and can settle into the nooks and crannies amongst the larger cobbles of the streambed, areas normally used by certain fish species for spawning. By filling these nooks and crannies, this sediment can adversely affect certain species of fish by preventing them from spawning. Along Guanella Pass Road, the cut and fill slopes are generally comprised of glacial drift and, therefore, do not necessarily have the same kind of impact to fish-spawning habitat. According to Ms. Mickley, this is the primary difference in conditions of concern regarding sedimentation between Pikes Peak Road and Guanella Pass Road. However, the US Forest Service (USFS) hydrologists, informed FHWA that although the sedimentation deposition in

South Clear and Geneva Creeks is different material from that of Pikes Peak Road, this deposition can also be harmful to aquatic habitats. Should you wish more information regarding sedimentation impacts to aquatic species, we suggest you contact Ms. Mickley at 303-275-5166.

3) *On the paved surfaces, is FHWA willing to place pavement and then have it overlaid with a chipseal (rather than doing only chipseal)?*

Yes, the FHWA is willing to place chipseal onto new asphalt pavement that may be constructed on the Guanella Pass Road. The purpose of the chipseal would be to provide a more rustic surface appearance than asphalt pavement and to extend the service life of the pavement.

4) *If not all cooperating agencies are on board with the project (e.g. Georgetown) will there still be a road construction project?*

In the event that either of the counties or Georgetown elects not to support the project, the FHWA would have to consult with the other program agencies (USFS and CDOT) for agreement to use Forest Highway Funds for the revised scope of the project. If Park County withdraws support or Georgetown chooses to not support the project, there may still be a project on the segments of the project that did receive jurisdictional support. If Clear Creek County withdraws support for the project, it does not appear likely that there would be a project on the Park County and Georgetown portions given that Clear Creek County connects those two segments.

As you are aware, the USFS is considering, in its Draft Guanella Pass Scenic and Historic Corridor Management Strategy, permanently closing a portion of Guanella Pass Road that extends from Naylor Lake to Duck Lake. This action would not necessarily stop the remainder of the project from being built. The FHWA would have to meet with the Program Agencies to determine if there is agreement to fund the revised scope of the project.

If Georgetown chooses not to support the project, or if a portion of the road was permanently closed, additional delays could result. The FHWA may determine that another Supplemental Draft Environmental Impact Statement (SDEIS) would need to be prepared to evaluate the environmental impacts of such an alternative. If Park County withdraws support for the project, the environmental process might still proceed since one of the alternatives, Alternative 4, considered in the Draft Environmental Impact Statement, designates a major portion of the Guanella Pass Road in Park County as no action.

5) *If a gravel source cannot be found on Guanella Pass, is FHWA willing to do the hauling through Park County during the shoulder seasons? Is FHWA willing to avoid hauling during Tumbling River Ranch's tourist season (Memorial Day to Labor Day)?*

If a large enough staging site is provided that can accommodate an asphalt batch plant, e.g. possibly the closed Geneva Ski area, hauling of aggregate for base and asphalt mix could be scheduled to avoid hauling through Tumbling River Ranch from Memorial Day through Labor Day. The mobilization of an asphalt mix batch plant and additional stockpiling and processing of the aggregate would be substantially more expensive; however, such mitigation may be necessary if no other practical sequence or construction of the project is agreeable to the

cooperating agencies. The hauling of materials other than aggregate (supplies, fuel, pipe, retaining wall materials, etc.) would probably have to occur during the summer months. These other materials comprise approximately 15 to 20 percent of the total truck trips required for the construction of Alternative 6 in the Park County portion of Guanella Pass.

6) *What kind of modifications can still be done to Alternative 6?*

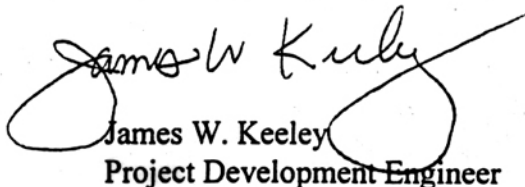
The FHWA does not foresee any major modifications being made to Alternative 6 as it is presented in the SDEIS, in terms of the level of improvements proposed. This means, in part, that there will be no substantial changes made to the percentages of the road designated for rehabilitation, light reconstruction, and full reconstruction activities. There may be some minor adjustments to these percentages during the final design of the project as discussed on Page B-14 of Appendix B of the SDEIS, but FHWA does not estimate these to result in more than a 3 percent change.

As discussed above under question 4, depending on the support received (or not received) from the cooperating agencies regarding the project, Alternative 6 may be combined with no action segments. However, FHWA will not consider reducing further the design standards for those portions of the road included in the proposed action. For example, FHWA will not consider reducing the width of the road from 22 feet to 20 feet as part of the project. Any further reduction of standards would seriously compromise FHWA's responsibility to provide a safely designed road for public use.

As we move forward toward selection of a preferred alternative for evaluation in the Final Environmental Impact Statement, the above questions can be discussed with you in more detail.

Thank you for your continued interest in the project. Should you have any further questions, please do not hesitate to contact me at 303-716-2099 or Ms. Corwin at 303-716-2097.

Sincerely yours,

  
James W. Keeley  
Project Development Engineer



# United States Department of the Interior

OFFICE OF THE SECRETARY  
WASHINGTON, D.C. 20240

ER-00/837

MAR 26 2001

Mr. James W. Keeley  
Project Development Engineer  
Federal Highway Administration  
555 Zang Street, Room 259  
Lakewood, Colorado 80228

Dear Mr. Keeley:

This is in response to your request for the Department of the Interior's comments on the Colorado Forest, Highway 80, Guanella Pass Road Supplement to the Draft Environmental Impact Statement.

## Section 4(f) Statement Comments

Alternative 6 proposes a narrower width and reduced curve radii in the section of roadway looking over the Georgetown-Silver Plume National Historic Landmark District. In addition, Alternative 6 has the least amount of impacts to the three mine tailings and the Farwell Reduction Works Smelter, both of which are contributing elements to the Historic Landmark District; also the Colorado Central Railroad grade, which is eligible to be listed in the National Register of Historic Places.

We are pleased to note that you are continuing to consult with the State Historic Preservation Officer (SHPO) and the Town of Georgetown about possible impacts to the district. As noted in our previous comments, all mitigating measures to minimize harm to historic properties should be documented in a Memorandum of Agreement (MOA) with the SHPO. A signed copy of the MOA should be included in the Final Section 4 (f) Evaluation.

## Summary Comments

The Department of Interior has no objection to Section 4 (f) approval of this project by the Department of Transportation, providing that all measures to minimize harm to Section 4(f) resources are included in final project plans. Documentation to that effect should be included in the Final Section 4 (f) Evaluation.

We appreciate the opportunity to provide these comments.

Sincerely,

Willie R. Taylor  
Director, Office of Environmental  
Policy and Compliance



U.S. Department  
of Transportation  
Federal Highway  
Administration

Central Federal Lands Highway Division  
555 Zang Street, Mail Room 259  
Lakewood, CO 80228

**MAR 23 2001**

Refer To: HPD 16.5-Corwin

Ms. Georgianna Contiguglia  
Intergovernmental Services Director  
Colorado Historical Society  
The Colorado History Museum  
1300 Broadway  
Denver, CO 80203

Attn: Ms. Kaaren K. Hardy

Dear Ms. Contiguglia:

Subject: Colorado Forest Highway 80, Guanella Pass Road

On March 21, 2001, Ms Kaaren Hardy of your staff met with Mr. Steve Hallisy and Ms. Jennifer Corwin from the Federal Highway Administration (FHWA) to discuss cultural resource issues associated with the recent developments in the Guanella Pass Road Improvement Project. Below are notes from the meeting and a list of action items.

*1. Site Number 5CC.861 – Georgetown/Argentine, & Snake River/Green Lake Wagon Road Segments*

Both the Colorado Historical Society (CHS) and FHWA have found this site to be ineligible for listing on the National Register. However, in a letter to Mr. Hallisy dated April 2, 1999, Messrs. Allen E. Kane of the Pike and San Isabel National Forests and Jeff Overturf of the Arapaho and Roosevelt National Forests stated that this site might be eligible for listing under Criterion A. Messrs. Kane and Overturf requested additional information regarding this site, however, they did not specify what kind of information was needed. Mr. Hallisy agreed to contact Mr. Kane to better clarify what information they need. Ms. Hardy said that if the US Forest Service (USFS) continued to dispute the eligibility finding made by the CHS, the FHWA might suggest that USFS consult with the Keeper of the Register to settle the dispute.

*2. Site Number 5PA.403 – Grant Colorado*

While your office, FHWA, and the USFS agreed that this site is not eligible for listing under Criteria A, B, or C, in the same USFS letter mentioned above, the USFS expressed concern that there may be subsurface archaeological resources associated with the frontier railhead



community of Grant. As a result, the USFS requested that road construction, in the vicinity of Grant, be monitored by an archaeologist. The FHWA agreed to this request. The extent of the road that needs to be monitored during construction needs to be determined.

### 3. *Construction Bypass*

Construction of any of the build alternatives would require hauling between 6000 and 8500 truckloads of material through the City of Georgetown. The public has expressed concern regarding the socio-economic and historic impacts this hauling would have on the citizens and buildings of Georgetown, respectively. In an attempt to reduce these possible impacts, the FHWA is considering the construction of a temporary single-lane bypass bridge connecting the Georgetown Loop Road with the old Georgetown Loop Railroad Grade that would permit construction traffic to avoid the Georgetown business district. This bypass route roughly follows the same route as the permanent Georgetown bypass presented in the Draft Environmental Impact Statement (DEIS). Physical impacts created by the construction of this bypass would include excavation of a portion of the railroad grade and the construction of a retaining wall, placement of a single pier to support the bridge, and the removal of some rock immediately adjacent to the railroad grade and the smelter to provide sufficient width for the haul trucks. Ms. Corwin informed Ms. Hardy that additional cultural resource and biological surveys will need to be done given that the location of the temporary bridge is a little farther southwest of the location of the permanent bypass route proposed in the DEIS.

Because the Farwell Smelter is eligible for listing, the construction of this bypass may have an adverse effect to the smelter. Mr. Hallisy and Ms. Corwin will conduct a field review of the temporary bypass route with the FHWA designers to determine the extent of the physical impacts near the smelter.

It was determined that the segment of the railroad grade that would be impacted by the bypass was incorrectly identified as Site 5CC.3.221, named the Colorado Central Railroad, in the FHWA's cultural resource reports. The segment is actually a part of the Georgetown Loop Railroad, an historic site listed on the National Register. Because no site number could be identified at the time for the Georgetown Loop Railroad, Ms. Hardy will provide FHWA the appropriate site number once she locates it.

Ms. Hardy said that the Colorado History Museum, as owners of the Georgetown Loop Railroad, would be concerned about how this temporary bypass may affect the Georgetown Loop Railroad. Ms. Hardy recommended the FHWA consult with Mr. Lee Behren, who maintains the Georgetown Loop Railroad, to discuss the possible impacts the routing of construction along the bypass would have on the operations of the Georgetown Loop Railroad.

### 4. *Silverdale Materials Site*

Another method the FHWA is considering to minimize truck hauling through Georgetown is to extract the aggregate needed for the project from sites along Guanella Pass Road. If material sources of sufficient quality and quantity are identified along Guanella Pass Road, up to 80 percent of the truck trips through Georgetown would be eliminated.

One possible materials source is located on private property, just north of the Georgetown Forebay Reservoir, in the Georgetown-Silver Plume National Historic Landmark District. Ms. Hardy pointed out that this location is in the vicinity of Silverdale, an abandoned mining town that may be eligible for listing. Ms. Hardy said that prior to testing the material of the site, the FHWA should survey the site to ensure that testing would not impact any possibly historic structures or subsurface archaeological resources.

If the FHWA should decide to haul material from this site using the two-track road that accesses this site from the south, the FHWA will need to evaluate Silverdale by identifying the boundaries of the mining community and determining whether it is eligible for listing. Because it appears that the two-track runs through the abandoned Silverdale mining town, any improvements made to the two-track could create an adverse effect to Silverdale if it is determined eligible for listing.

Ms. Hardy also said that the FHWA would need to identify what impacts the extracting of aggregate at the proposed materials source site would have on those qualities that contribute to the landmark status of the Georgetown-Silver Plume National Historic Landmark District.

#### 5. *Historic Status of Guanella Pass Road*

Ms. Hardy said that the CHS still considers Guanella Pass Road as ineligible for listing on the National Register, despite the fact that it has recently turned 50 years old. Ms. Hardy said that there is insufficient information to warrant its listing. An application has been placed to list Guanella Pass Road on the state register, however, this request has not moved forward, and Ms. Hardy believes that it will not move forward unless new information is submitted. No additional information for this application has been submitted since 1999.

#### 6. *Other Future Actions*

Once cultural resource surveys of the temporary construction bypass and the borrow sites are complete, the FHWA will submit these to the CHS for review. Along with these reports, the FHWA will submit a letter discussing its consultation with the National Park Service regarding the possible impacts the Guanella Pass Road Improvement Project may have on the Georgetown-Silver Plume National Historic Landmark District.

Based on the items discussed above, the FHWA has identified the following action items to be carried out by CHS or the FHWA:

1. **Mr. Hallisy will contact Mr. Alan Allen Kane of the Pike and San Isabel National Forest to determine what additional information he would like to see regarding site 5CC861 and its possible eligible status under criterion A.**
2. **Ms. Hardy will provide the FHWA with a site number for the segment of the Georgetown Loop Railroad that would be impacted by the proposed temporary construction bypass.**

3. Ms. Corwin and Mr. Hallisy will meet with FHWA project designers to determine the full extent of physical impacts that would result from constructing the temporary construction bypass.
4. The FHWA will conduct cultural resource surveys of the proposed temporary construction bypass and the proposed materials sites.
5. Ms. Corwin will contact Mr. Lee Behren of the Georgetown Loop Railroad to discuss the possible impacts the routing of construction traffic over the temporary bypass would have on the operations of the Georgetown Loop Railroad.
6. Once all surveys are completed, the FHWA will submit them to the CHS for review along with a letter discussing the consultation FHWA has had with the National Park Service regarding the Georgetown-Silver Plume National Historic Landmark.

I would like to thank you and your staff for the time and assistance that you have provided FHWA regarding the cultural resource issues associated with the Guanella Pass Road Improvement Project. Should you have any comments, questions, or changes regarding the above information, please do not hesitate to contact Mr. Hallisy at 303-716-2140 or Ms. Corwin at 303-716-2097.

Sincerely yours,

/s/

Richard J. Cushing  
Environmental Planning Engineer



# United States Department of the Interior

## NATIONAL PARK SERVICE INTERMOUNTAIN REGION

Intermountain Support Office - Santa Fe (Denver)  
12795 West Alameda Parkway  
Post Office Box 25287  
Denver, Colorado 80225-0287

IN REPLY REFER TO:

H3417 (IMDE-CNR) NHL

Steve Hallisy  
Federal Highway Administration  
HPD16 - Environment  
555 Zang  
Lakewood, Colorado 80227

MAR 22 2001

Dear Mr. Hallisy:

It was a pleasure talking with you recently about the proposed project on Colorado Forest Highway 80 (Guanella Pass Road). As I confirmed, the National Park Service staff in Denver did receive review copies of both the Draft Environmental Impact Statement, as well as the subsequent Supplement. We appreciate your agency pointing out in your transmittal letter that the Georgetown-Silver Plume National Historic Landmark was in the area of study.

NPS staff who work with the National Historic Landmarks program reviewed both documents, and our opinions are included in the comments from Mr. Willie R. Taylor, NPS Director of the Office of Environmental Policy and Compliance. His letter was dated August 19, 1999.

Thank you for keeping us informed of the plans for the National Historic Landmark. If you have any questions, please feel free to contact me at [Lysa\\_wegman-french@nps.gov](mailto:Lysa_wegman-french@nps.gov) or call me at (303) 969-2842.

Sincerely,

Lysa Wegman-French, Historian  
Cultural Resources & National Register Program Services



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

Central Federal Lands  
Highway Division

555 Zang Street, Room 259  
Lakewood, CO 80228

**MAR 20 2001**

In Reply Refer To:  
HPD-16

The Honorable Ben Nighthorse Campbell  
Member, United States Senate  
6950 E. Belleview Ave., #200  
Englewood, CO 80111

Dear Senator Campbell:


I am responding to your letter, dated December 19, 2000, sent to Mr. Kenneth R. Wykle, Administrator of the Federal Highway Administration (FHWA), which was then forwarded to the Colorado Division, and then forwarded to my office in the Central Federal Lands Highway Division. Your letter contained a copy of a comment letter from John and Sandra Roe regarding the Supplemental Draft Environmental Impact Statement (SDEIS) on Colorado Forest Highway 80, Guanella Pass Road. You requested that FHWA advise you of its action regarding this comment letter.

The FHWA works very hard to be responsive to public comments on its projects. The sole purpose of the SDEIS, was to provide a direct response to many of the concerns raised by the public during the comment period for the Draft Environmental Impact Statement (DEIS). The FHWA will review all comments received regarding the SDEIS and the DEIS and give them serious consideration during the development of the Final Environmental Impact Statement.

We did receive the original copy of John and Sandra Roe's December 11, 2000 letter and apologize for the length of time for this response. We also replied to two similar letters from your office dated January 2, 2001 and February 6, 2001. Please be assured that we have received all the comments in these letters and will give them serious consideration.

Thank you for your interest in the Guanella Pass Project. Should you have any additional questions or comments regarding this project, please contact either me at 303-716-2002 or Rick Cushing, Environmental Planning Engineer, at 303-716-2138.

Sincerely yours,

ORIGINAL SIGNED BY  
LARRY C. SMITH 

Larry C. Smith  
Division Engineer

Enclosure

cc (w/copy of Senator Campbell's letter [Control No.: 010117-001-HOA]):

Rick Peters, Director, Park County Road and Bridge, PO Box 147, Fairplay, CO 80440  
Berten R. Weaver, Planning Dir, Clear Creek Co, PO Box 2000, Georgetown, CO 80444  
William C. Jones, Division Administrator, FHA-CO, 555 Zang St., Rm. 250, Lakewood, CO  
80228-1097

Margaret J. Lomax, Executive Secretariat, FHWA, HOAES, Rm. 4211, 400 7<sup>th</sup> Street, SW,  
Washington, DC 20590

Jim Moe, Transportation Engr, USFS, Region 2, PO Box 25127, Lakewood, CO  
80225-0127

James Bedwell, Forest Supervisor, Arapaho & Roosevelt NF, 240 West Prospect, Fort  
Collins, CO 80526

Dan Lovato, District Ranger, Clear Creek Ranger District, Arapaho & Roosevelt NF,  
101 Chicago Creek, PO Box 3307, Idaho Springs, CO 80452

Abigail Kimbell, Forest Supv, Pike & San Isabel NF, 1920 Valley Dr, Pueblo, CO 81008

Randy Hickenbottom, Dist Ranger, South Platte Ranger Dist, Pike NF, 19316 Goddard  
Ranch Court, Morrison, CO 80465

Donna Mickley, Forest Liaison, USFS, Region 2, PO Box 25127, Lakewood, CO  
80225-0127

Fabyan Watrous, Clear Creek County Commissioner, PO Box 2000, Georgetown, CO 80444

JoAnn Sorensen, Clear Creek County Commissioner, PO Box 2000, Georgetown, CO 80444

Robert Poirot, Clear Creek County Commissioner, PO Box 2000, Georgetown, CO 80444

Jerry Solberg, Park County Commissioner, Park County, PO Box 220, Fairplay, CO 80440

Don Staples, Park County Commissioner-Elect, Park County, PO Box 220, Fairplay,  
CO 80440

Leni Walker, Park County Commissioner-Elect, Park County, PO Box 220, Fairplay,  
CO 80440

Ann Skinner, Colorado DOT, 18500 E. Colfax Avenue, Aurora, CO 80011

Art Hamilton, Program Manager, FLH, FHQM, HFL-1, 400 Seventh Street, SW,  
Room 6311, Washington, DC 20590

Richard Weingroff, Infrastructures, FLH, FHQM, HIF-1, 400 Seventh Street, SW,  
Room 6311, Washington, DC 20590

bc: M. Taylor

J. Keeley

J. Knowles

L. Smith

B. Nestel

G. Strike

J. Corwin

yc: reading file

Central File - CO 80 (Guanella Pass Road)

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# The Town of Georgetown

P.O. Box 426  
Georgetown, Colorado 80444  
(303) 569-2555

March 13, 2001

To: Federal Highway Administration  
United States Forest Service  
Clear Creek County Commissioners


From: Board of Selectmen

The Board of Selectmen of the Town of Georgetown has reviewed the FHWA Supplemental Draft Environmental Impact Statement for Guanella Pass aka "Alternative 6" and the Draft Corridor Management Plan presented by the USFS. These two documents have addressed many of the concerns expressed by the Town and its citizens. They provide a variety of strategies and options for the road which have varying levels of impact on the Town. The Board of Selectmen continues to have concerns with:

1. Mitigation of construction impacts by locating material sources within the corridor. It is particularly important that the location of these sources do not create further difficulties in the National Historic Landmark District or the Georgetown Watershed Protection District.
2. Mitigation of construction impacts through the use of a temporary by-pass bridge to connect Loop Drive with the 2nd switchback. The by-pass may be a crucial element for town participation.
3. Definition of items still open for discussion in a final design phase, for instance wall and guard rail placement, length and materials.
4. The potential of future traffic impact throughout Georgetown and other determinations which are dependent on the corridor management strategy adopted by the USFS.
5. The final road surface decisions which will impact the nature and use of the road. The USFS appears to be requiring a macadam to asphalt surface throughout which is not currently the position of Alternative 6 and has not been welcomed by the public.

In light of these yet to be determined factors the Board of Selectmen can not make a final decision in regard to Alternative 6 at this time. The Town acknowledges and concurs with the importance of the water quality, maintenance and use questions that initiated this project. We wish to continue to work with the partner agencies to resolve the outstanding issues and complete a project that is beneficial to us all.

Please be aware that elections in Georgetown in April will seat a new majority, three Selectmen and a Police Judge (Mayor), on our Board. The present Board feels it would be inappropriate to make a decision in regard to Alternative 6 prior to those elections. We hope the FHWA will make a presentation on Guanella Pass concerns at the May 8 meeting of the new Board of Selectmen.

Sincerely,  
  
Gerald Cookson  
Police Judge/Mayor



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

Central Federal Lands  
Highway Division

555 Zang Street, Room 259  
Lakewood, CO 80228

**FEB 15 2001**

In Reply Refer To:  
HPD-16

The Honorable Ben Nighthorse Campbell  
Member, United States Senate  
6950 East Belleview Ave., Suite 200  
Greenwood Village, Colorado 80111

Dear Mr. Campbell:

Thank you for your letter dated February 6, containing copies of comment letters your office received regarding the Supplemental Draft Environmental Impact Statement (SDEIS) on Colorado Forest Highway 80, Guanella Pass Road.

As we stated in a previous correspondence with your office, dated February 8, the Federal Highway Administration (FHWA) works very hard to be responsive to public comments on its projects. The FHWA will review all comments received regarding the SDEIS and the Draft Environmental Impact Statement for the Guanella Pass Road Project and give them serious consideration during the development of the Final Environmental Impact Statement.

Thank you for your interest in this project. Should you have any additional questions or comments, please contact either me at 303-716-2002 or Rick Cushing, Environmental Planning Engineer, at 303-716-2138.

Sincerely yours,

**ORIGINAL SIGNED BY  
LARRY C. SMITH**

Larry C. Smith  
Division Engineer

cc (w/copy of Senator Campbell's letter):

Rick Peters, Director, Park County Road and Bridge, PO Box 147, Fairplay, CO 80440  
Berten R. Weaver, Planning Dir, Clear Creek Co, PO Box 2000, Georgetown, CO 80444  
Jim Moe, Transportation Engr, USFS, Region 2, PO Box 25127, Lakewood, CO 80225-0127  
James Bedwell, Forest Supervisor, Arapaho & Roosevelt NF, 240 West Prospect, Fort  
Collins, CO 80526



Dan Lovato, District Ranger, Clear Creek Ranger District, Arapaho & Roosevelt NF,  
 101 Chicago Creek, PO Box 3307, Idaho Springs, CO 80452  
 Abigail Kimbell, Forest Supv, Pike & San Isabel NF, 1920 Valley Dr, Pueblo, CO 81008  
 Randy Hickenbottom, Dist Ranger, South Platte Ranger Dist, Pike NF, 19316 Goddard  
 Ranch Court, Morrison, CO 80465  
 Donna Mickley, Forest Liaison, USFS, Region 2, PO Box 25127, Lakewood, CO 80225-0127  
 Fabyan Watrous, Clear Creek County Commissioner, PO Box 2000, Georgetown, CO 80444  
 JoAnn Sorensen, Clear Creek County Commissioner, PO Box 2000, Georgetown, CO 80444  
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 Leni Walker, Park County Commissioner-Elect, Park County, PO Box 220, Fairplay, CO 80440  
 Ann Skinner, Colorado DOT, 18500 E. Colfax Avenue, Aurora, CO 80011  
 Art Hamilton, Federal Lands Highway Program Manager (HFL-1), 400 Seventh Street, SW,  
 Room 6311, Washington, DC 20590  
 Richard Weingroff, Infrastructures (HIF-1), 400 Seventh Street, SW, Room 6311, Washington,  
 DC 20590

bc:

M. Taylor, HPD-16  
 B. Nestel, HPD-16.5  
 G. Strike, HPD-16  
 J. Corwin, HPD-16.5

reading file

Central File - CO 80 (Guanella Pass Road)

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U.S. Department  
of Transportation  
**Federal Highway  
Administration**

Central Federal Lands  
Highway Division

555 Zang Street, Room 259  
Lakewood, CO 80228

**FEB - 8 2001**

In Reply Refer To:  
HPD-16

The Honorable Ben Nighthorse Campbell  
Member, United States Senate  
6950 E. Belleview Ave., #200  
Englewood, CO 80111

Dear Mr. Campbell:

Thank you for your letter dated January 2, containing a copy of a comment letter your office received regarding the Supplemental Draft Environmental Impact Statement (SDEIS) on Colorado Forest Highway 80, Guanella Pass Road.

The Federal Highway Administration (FHWA) works very hard to be responsive to public comments on its projects. The sole purpose of the SDEIS, was to provide a direct response to many of the concerns raised by the public during the comment period for the Draft Environmental Impact Statement (DEIS). The FHWA will review all comments received regarding the SDEIS and the DEIS and give them serious consideration during the development of the Final Environmental Impact Statement.

Thank you for your interest in the Guanella Pass Project. Should you have any additional questions or comments regarding the project, please contact either me at 303-716-2002 or Rick Cushing, Environmental Planning Engineer, at 303-716-2138.

Sincerely yours,

ORIGINAL SIGNED BY  
LARRY C. SMITH

Larry C. Smith  
Division Engineer

cc (w/copy of Senator Campbell's letter):

Rick Peters, Director, Park County Road and Bridge, PO Box 147, Fairplay, CO 80440  
Berten R. Weaver, Planning Dir, Clear Creek Co, PO Box 2000, Georgetown, CO 80444  
Jim Moe, Transportation Engr, USFS, Region 2, PO Box 25127, Lakewood, CO 80225-0127  
James Bedwell, Forest Supervisor, Arapaho & Roosevelt NF, 240 West Prospect, Fort  
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Dan Lovato, District Ranger, Clear Creek Ranger District, Arapaho & Roosevelt NF,  
101 Chicago Creek, PO Box 3307, Idaho Springs, CO 80452

Abigail Kimbell, Forest Supv, Pike & San Isabel NF, 1920 Valley Dr, Pueblo, CO 81008

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Room 6311, Washington, DC 20590

Richard Weingroff, Infrastructures, FLH, FHQM, HIF-1, 400 Seventh Street, SW,  
Room 6311, Washington, DC 20590

bc: M. Taylor

B. Nestel

G. Strike

J. Corwin

yc: reading file

Central File - CO 80 (Guanella Pass Road)

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*jm*

# United States Senate

WASHINGTON, DC 20510-0605

February 6, 2001

Mr. Larry Smith  
Division Engineer  
U.S. DOT - FHWA  
555 Zang Street  
Room 250  
Lakewood, Colorado 80228

Dear Mr. Smith:

I am forwarding the attached correspondence from constituents who have questions or concerns relevant to the proposed construction on Guanella Pass Road.


I am enclosing copies of letters from the following constituents:

John H. Roe  
Betty J. Sitzman  
Joseph Springer

Please carefully review this information and advise me of your action in this matter by written reply. Your timely response should be directed to my Greenwood Village office at the address listed below.

Thank you for your cooperation.

Sincerely,



Ben Nighthorse Campbell  
U.S. Senator

BNC:pw



COLORADO  
HISTORICAL  
SOCIETY

January 31, 2001

Richard Cushing  
Environmental Planning Engineer  
Federal Highway Administration  
555 Zang Street, Room 259  
Lakewood, CO 80228

RE: Colorado Forest Highway 80, Guanella Pass Road, HPD-16 - Supplemental DEIS

Dear Mr. Cushing:

Thank you for your correspondence dated November 15, 2000, and additional communication January 8, 2001, concerning the above document.

We are pleased to see the development of this additional alternative (Alternative 6) to take into account a variety of concerns that have been raised and to seek greater consensus among the stakeholders and interested parties. As you know, our office is concerned about potential effects to historic properties (cultural resources) within the area of potential effects (APE), including the Georgetown - Silver Plume National Historic Landmark (NHL) District (5CC3). We were unable to determine whether the Secretary of the Interior has been afforded an opportunity to comment on the proposed project, pursuant to Section 800.10(c) of the Advisory Council on Historic Preservation regulation *Protection of Historic Properties* (36 CFR 800), given the presence of an NHL. In addition, we encourage your continued inclusion of Georgetown in the review process, since it is a Certified Local Government.

**Page IV-56** states that "(t)he terminus options are not included under alternative 6". Where are these terminus options discussed? In reviewing both this document and the June 1999 DEIS, we found only the brief paragraph in *Appendix B* about **Rose Street** (B-33) that might be related to this issue. Additionally, we look forward to an opportunity to review and comment on the proposed guardrail and retaining wall designs and materials under whichever alternative is selected.

It is our opinion that Alternative 6 reduces the potential for an adverse effect to historic properties. However, we will reserve our formal comment on effects until we have reviewed the issues and design details discussed above. If we may be of further assistance, please contact Kaaren Hardy, our Intergovernmental Services Director, at 303/866-3398.

Sincerely,

for  
Georgianna Contiguglia  
State Historic Preservation Officer

CC: Town of Georgetown



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

Central Federal Lands  
Highway Division

555 Zang St. Rm 259  
Lakewood, CO 80228

**JAN 31 2001**  
In Reply Refer To:  
HPD-16

Mr. William H. Nevius  
PO Box 30  
Grant, CO 80448

Dear Mr. Nevius:

**Subject: Response to your December 13, 2000 letter regarding the Guanella Pass SDEIS**

Thank you for your letter dated December 13, concerning the Supplemental Draft Environmental Impact Statement (SDEIS) on Colorado Forest Highway 80, Guanella Pass Road. The issues you raised in your letter were all discussed with Messrs. Jim Gordon and Scott Dugan of the Tumbling River Ranch (TRR) in four meetings at TRR between May and October 2000. During these meetings Mr. Gordon said that his major concern was avoidance of construction activities between June and August. We explained that avoidance of construction activities between Grant and Geneva Park was possible, but that it depended on the use of a materials source, or sources, along the road above Geneva Park in order to facilitate the economic production and hauling of materials. We are currently identifying and pursuing approval of materials sources for this purpose.

Construction hauling and noise were also discussed at these meetings and we explained mitigation options that are available to us if the project proceeds into final design and construction.

We provided a written response to Mr. Gordon on August 17 that addressed damage to TRR. It stated that loss of business due to disruption from construction activities is generally not compensable. It went on to say that we will, however, work with TRR to determine and implement reasonable limits to the construction activities that will mitigate impacts to the operations of TRR.

The Federal Highway Administration (FHWA) felt an understanding had been reached at these meetings regarding many of the issues raised in your letter. There appeared to be some acceptance of Alternative 6 subject to written mitigatory commitments by the FHWA. We explained that written commitments are not possible until approval is gained on the materials sources listed previously along with approval on the final details related to addressing these issues from our partners (the Forest Service, the Colorado Department of Transportation, Park

County, Clear Creek County, and Georgetown). We are proceeding on the basis that the restrictions on construction and haul traffic will be consistent with our previous discussions with Mr. Gordon.

Please be advised that we will prepare a more detailed response to your letter in the Final Environmental Impact Statement.

We are certainly willing to pursue further meetings with Mr. Gordon and you to discuss the issues you raised in your letter. If you or Mr. Gordon would like to arrange a meeting or either of you have further questions regarding the above information, please contact me at 303-716-2099.

Sincerely yours,

*15/ Richard J. Cushing*

*for*

James W. Keeley, P.E.  
Project Development Engineer

cc: Mr. William Nevius, 26661 Avenida Deseo, Mission Viejo, CA, 92691  
cc (w/ copy of W.Nevius letter):

Mr. Berten R. Weaver, Planning Director, Clear Creek County, PO Box 2000, Georgetown, CO 80444

Mr. Jim Moe, Transportation Engineer, US Forest Service, Region 2, PO Box 25127, Lakewood, CO 80225-0127

Mr. James Bedwell, Forest Supervisor, Arapaho & Roosevelt National Forest, 240 West Prospect, Fort Collins, CO 80526

Mr. Dan Lovato, District Ranger, Clear Creek Ranger District, Arapaho & Roosevelt National Forest, 101 Chicago Creek, PO Box 3307, Idaho Springs, CO 80452

Ms. Abigail Kimbell, Forest Supervisor, Pike & San Isabel National Forests, 1920 Valley Drive, Pueblo, CO 81008

Mr. Randy Hickenbottom, District Ranger, South Platte Ranger District, Pike National Forest, 19316 Goddard Ranch Court, Morrison, CO 80465

Ms. Donna Mickley, Forest Liaison, US Forest Service, Region 2, PO Box 25127, Lakewood, CO 80225-0127

Ms. Fabyan Watrous, Clear Creek County Commissioner, PO Box 2000, Georgetown, CO 80444

Ms. JoAnn Sorensen, Clear Creek County Commissioner, PO Box 2000, Georgetown, CO 80444

Mr. Robert Poirot, Clear Creek County Commissioner, PO Box 2000, Georgetown, CO 80444

Mr. Jerry Solberg, Park County Commissioner, Park County, PO Box 220, Fairplay, CO 80440



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

400 Seventh St., S.W.  
Washington, D.C. 20590

January 17, 2001

Ms. Pam Wohler  
Staff Assistant to the  
Honorable Ben Nighthorse Campbell  
United States Senator  
6950 E. Belleview Avenue  
Englewood, CO 80111

Dear Ms. Wohler:

This is in response to Senator Campbell's December 19 letter to Federal Highway Administrator Kenneth R. Wykle on behalf his constituents John and Sandra Roe, concerning the Guanella Pass Road.

I have forwarded Mr. and Mrs. Roe's letter to our Colorado Division and have asked someone to respond directly to Senator Campbell. If you have any questions, please contact the Division Office at 916-498-5014.

Sincerely yours,

Margaret J. Lomax  
Executive Secretariat

cc:  
Colorado Division Office  
MLomax/mhw





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8  
999 18<sup>TH</sup> STREET - SUITE 500  
DENVER, CO 80202-2466  
<http://www.epa.gov/region08>

January 16, 2001

Ref: 8EPR-EP

Mr. Richard Cushing  
Federal Highway Administration  
Central Federal Lands Highway  
Administration (HPD-16.5)  
555 Zang Street, Suite 259  
Lakewood, CO 80228

Re: Guanella Pass Road, Colorado Forest Hwy. 80  
DSEIS Review - 000384

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 *Draft Supplemental Environmental Impact Statement (DSEIS) for the Colorado Forest Highway 80, Guanella Pass Road*, dated November 2000. Highway 80 runs from US 285 in Grant to Interstate 70 (I-70) in Georgetown, Colorado.

The supplemental DEIS adds a sixth alternative changing the road classification from rural collector to rural local road. The road classification change allows a lower design speed, tighter curves and a narrower roadway than the other build alternatives. The narrower width and rural local road classification seem more in keeping with the uses of the road and the mountainous topography. EPA commends the FHWA and other entities for developing this additional alternative to minimize impacts and address public concerns.

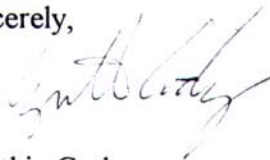
Although the Alternative 6 road is narrower, EPA continues to have the same concerns as discussed in our October 7, 1999 letter. Our comments still remain: 1) protect the alpine environment, especially high altitude wetlands which are very expensive and difficult to mitigate; 2) maintain and improve existing water quality by controlling sediment and reducing erosion; 3) integrate the requirements of the CWA 404 permit with the FEIS to protect wetlands, including additional mitigation and site specific alternatives to avoid wetlands; 4) identifying unique wetlands resources such as fens within the project corridor; and 5) ensuring that all adverse impacts are adequately mitigated and monitored. We note that Alternative 6 has the least impacts on wetlands of the build alternatives, 2.02 acres.

The area surrounding Guanella Pass contains many important and special natural resources which will be impacted by the indirect and cumulative impacts caused by the proposed road improvements. This project also has substantial public opposition, as noted in the press and in the comments on the DEIS. We encourage FHWA, the Counties and the Forest Service to continue to develop additional mitigation to protect the natural resources and maintain the character of the Guanella Pass area. For example, there may be opportunities in forest management plans to limit the numbers of high impact users of the Guanella Pass area and the Counties may complete winter closure plans for the upper portions of the road to protect these resources.

Based on the procedures EPA uses to evaluate the potential effects of proposed actions and the adequacy of the information, the DSEIS for the Guanella Pass Road will be listed in the Federal Register in the category EC-2 (environmental concerns, insufficient information). This rating means that the review has identified environmental impacts that should be avoided in order to fully protect the environment, and the DSEIS does not contain sufficient information to thoroughly assess environmental impacts that should be avoided to fully protect the environment.

We appreciate your interest in our comments. 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,



Cynthia Cody  
Chief, NEPA Unit  
Office of Ecosystems Protection  
and Remediation

Enclosures

cc: Tim Carey, COE, TriLakes Office  
Lee Carlson, USFWS, Lakewood  
Becky Vickers, CDOT, Denver



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

Central Federal Lands  
Highway Division

555 Zang Street, Room 259  
Lakewood, CO 80228

**JAN 09 2001**

In Reply Refer To:  
HPD-16

The Honorable Mark Udall  
Member, United States House of Representatives  
1333 West 120<sup>th</sup> Avenue, Suite 210  
Westminster, CO 80234

Dear Mr Udall:

Thank you for your letter dated December 28, concerning the extension of the comment period for the Supplemental Draft Environmental Impact Statement (SDEIS) on Colorado Forest Highway 80, Guanella Pass Road. The Federal Highway Administration (FHWA) agrees that the input and concerns of the individuals from communities within the project area regarding the proposed road improvements warrant serious attention and full consideration. We recognized that the release of the SDEIS on November 20, 2000 occurred just prior to what is normally considered a busy season for local residents of the area. Therefore, we extended the comment period an additional 12 days from the minimum 45 days stipulated in the National Environmental Policy Act regulations (40 CFR Parts 1500-1508), prior to the release of the SDEIS for public review in November. As a result, interested individuals were originally given a total of 57 days to review and comment on the SDEIS.

We have given serious consideration to your request to lengthen the comment period even further and believe an adequate time extension would be to Friday, February 2, 2001. This extends the comment period by another 17 days, for a total of 74 days or 2½ months.

Any further extension of the comment period would delay the entire project delivery schedule should a build alternative be selected as the preferred alternative in the Final Environmental Impact Statement. A delay in performing necessary engineering studies in the fall of 2001 would create substantial construction delays, and could affect the funding for the project.

Mr. Jim Keeley, FHWA's Project Development Engineer, called Mr. Dave Young of your Denver office on January 4, 2001 to inform him of our decision to extend the comment period. I have invited Mr. Young previously to meet with us for a briefing on this project and would again offer this invitation to you and/or your staff.

Thank you for your continued interest in the project. Should you have any additional questions or comments regarding the Guanella Pass Project please contact me at 303-716-2002 or Mr. Rick Cushing, Environmental Planning Engineer, at 303-716-2138.

Sincerely,

*ls/*

Larry C. Smith  
Division Engineer

cc (w/copy of Representative Udall's letter):

Mr. Rick Peters, Director, Park County Road and Bridge, PO Box 147, Fairplay, CO 80440  
 Mr. Berten R. Weaver, Planning Director, Clear Creek County, PO Box 2000, Georgetown, CO 80444  
 Mr. Jim Moe, Transportation Engineer, US Forest Service, Region 2, PO Box 25127, Lakewood, CO 80225-0127  
 Mr. James Bedwell, Forest Supervisor, Arapaho & Roosevelt National Forest, 240 West Prospect, Fort Collins, CO 80526  
 Mr. Dan Lovato, District Ranger, Clear Creek Ranger District, Arapaho & Roosevelt National Forest, 101 Chicago Creek, PO Box 3307, Idaho Springs, CO 80452  
 Ms. Abigail Kimbell, Forest Supervisor, Pike & San Isabel National Forests, 1920 Valley Drive, Pueblo, CO 81008  
 Mr. Randy Hickenbottom, District Ranger, South Platte Ranger District, Pike National Forest, 19316 Goddard Ranch Court, Morrison, CO 80465  
 Ms. Donna Mickley, Forest Liaison, US Forest Service, Region 2, PO Box 25127, Lakewood, CO 80225-0127  
 Ms. Fabyan Watrous, Clear Creek County Commissioner, PO Box 2000, Georgetown, CO 80444  
 Ms. JoAnn Sorensen, Clear Creek County Commissioner, PO Box 2000, Georgetown, CO 80444  
 Mr. Robert Poirot, Clear Creek County Commissioner, PO Box 2000, Georgetown, CO 80444  
 Mr. Jerry Solberg, Park County Commissioner, Park County, PO Box 220, Fairplay, CO 80440  
 Mr. Don Staples, Park County Commissioner-Elect, Park County, PO Box 220, Fairplay, CO 80440  
 Ms. Leni Walker, Park County Commissioner-Elect, Park County, PO Box 220, Fairplay, CO 80440  
 Ms. Ann Skinner, Colorado Department of Transportation, 18500 E. Colfax Avenue, Aurora, CO 80011

bc: M. Taylor  
 B. Nestel  
 G. Strike  
 J. Corwin

yc: reading file

Central File - CO 80 (Guanella Pass Road)

JCorwin:jm:1/08/01:L:\ENVIRONM\WP\CO080\Correspondence\Udall0101.wpd

*jm*



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

Central Federal Lands  
Highway Division

555 Zang Street, Room 259  
Lakewood, CO 80228

JAN 08 2001

In Reply Refer To:  
HPD-16

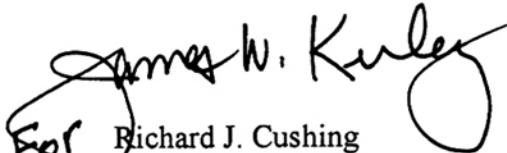
Agencies, Organizations, Citizens:

A Supplemental Draft Environmental Impact Statement (sDEIS) for a proposed improvement of Colorado Forest Highway 80, Guanella Pass Road, was circulated by the Federal Highway Administration (FHWA) on November 17, 2000. The end of the official comment period was January 16, 2001. Due to agency and public requests, the FHWA is extending the official comment period on the DEIS until February 2, 2001. Copies of the Guanella Pass SDEIS are available for review at the following locations:

Arapaho National Forest, 240 West Prospect Street, Fort Collins, CO  
Arapaho National Forest, 101 Chicago Creek, Idaho Springs, CO  
Federal Highway Administration, Environment Office, 555 Zang Street, Lakewood, CO  
Tomay Memorial Library, 605 6th Street, Georgetown, CO  
Clear Creek County, 405 Argentine Street, Georgetown, CO  
Denver Public Library, 10 West 14th Avenue, Denver, CO  
Pike National Forest, 1920 Valley Drive, Pueblo, CO  
Pike National Forest, 19316 Goddard Ranch Court, Morrison, CO  
US Forest Service, Region 2, 740 Simms Street, Golden, CO  
Park County Library, 418 Main Street, Fairplay, CO  
Park County Library, 350 Bulldogger Road, Bailey, CO  
Park County Clerk and Recorder, 501 Main Street, Fairplay CO  
[www.cflhd.gov/projects/co/guanella](http://www.cflhd.gov/projects/co/guanella)

Comments should be sent to Mr. Richard Cushing, Environmental Planning Engineer, Federal Highway Administration, 555 Zang Street, Room 259, Lakewood, CO 80228. For further information, you may contact Mr. Cushing at 303-716-2138.

Sincerely yours,

  
For Richard J. Cushing  
Environmental Planning Engineer



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

Central Federal Lands  
Highway Division

555 Zang Street, Room 259  
Lakewood, CO 80228

In Reply Refer To:  
HPD-16

U.S. EPA, Office of Federal Activities  
NEPA Compliance Div., EIS Filing Section  
Ariel Rios Bldg. (South Oval Lobby)  
Mail Code 2252-A, Room 7241  
1200 Pennsylvania Ave., NW  
Washington, DC 20044

**JAN 0 4 2001**

Dear Sir:

We would like you to publish a notice in the Federal Register extending the comment period for a Supplemental Draft Environmental Impact Statement (SDEIS). The SDEIS was prepared by the Federal Highway Administration (FHWA) for a proposed improvement on Colorado Forest Highway 80, Guanella Pass Road. The official comment period was from November 17, 2000 until January 16, 2001. The official comment period is extended until February 2, 2001.

The original Federal Register notice, published on November 17, 2000, read:

EIS No. 000384, Draft Supplement, FHW, CO, Colorado Forest Highway 80, Guanella Pass Road (also known as Park County Road 62, Clear Creek County Road 381 and Forest Development Road 118), Additional Alternative includes Rehabilitation, Light Reconstruction and Full Construction, Funding, Clear Creek and Park Counties, CO, Due: January 16, 2001, Contact: Richard Cushing (303) 716-2138.

If you have any questions, please contact Mr. Robert Nestel, Environmental Biologist, at 303-716-2142 or write to the above address, Attention: HPD-16.5, Environment.

Sincerely yours,

Richard J. Cushing  
Environmental Planning Engineer

# United States Senate

WASHINGTON, DC 20510-0605

January 2, 2001

The Honorable Kenneth R. Wykle  
Administrator  
Federal Highway Administration  
U.S. Department of Transportation  
400 Seventh Street, S.W.  
Washington, D.C. 20590

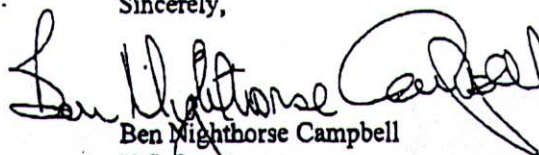
Dear Mr. Wykle:

Because we all strive to be responsive to constituent's concerns, I am forwarding the attached correspondence from a constituent of mine who has questions or concerns relevant to the U.S. Department of Transportation.

Please carefully review this information and advise me of your action in this matter by written reply. Your timely response should be directed to my Englewood office at the address listed below.

Thank you for your cooperation.

Sincerely,



Ben Nighthorse Campbell  
U.S. Senator

BNC:pw

8860 E. BELLEVUE AVENUE  
SUITE 200  
ENGLEWOOD, CO 80111  
303/843-4100

19 OLD TOWN SQUARE  
SUITE 238, #42  
FT. COLLINS, CO 80524  
970/224-1809

ASPENALL FEDERAL BLDG.  
400 ROOD AVE., ROOM 213  
GRAND JUNCTION, CO 81601  
970/241-8831

212 WAMSATCH AVENUE  
SUITE 203  
COLORADO SPRINGS, CO 80900  
719/838-9092

503 N. MAIN STREET  
SUITE 848  
PUEBLO, CO 81003  
719/542-8887

PRINTED ON RECYCLED PAPER

12-14-00  
Georgetown  
CO 80444

Dear Sir;

I have two deep concerns about  
The Guanella Pass Road Project.

I am a machinist who worked 25  
years in a shop with a concrete floor  
located on a highway. We not only  
could hear the heavy trucks go by,  
we could feel them. Thankfully we  
had a meta building.

Now, our buildings in George  
town are constructed of Brick, Mortar  
and stone, many over a hundred  
years old. Should the vibrations  
of blasting, Hauling heavy machinery  
And hauling material through our  
town for 600 days, dislodge some of  
the stonework on our buildings  
and fall to our sidewalks on a  
busy day when they are filled  
with tourists and towns people.

Injuring many people, some very  
seriously. Is this project really  
worth the gamble? Also if it



happens, It would be national News!  
Georgetown business would come to  
a Stand Still, and may Never  
revive again. What a Shame.

At a meeting I attended in  
Georgetown, the FHWA said,  
" Oh, we can remedy that. we  
can lower the Tire air pressure  
and haul lighter loads." I have  
talked to a Superintendant of  
a large road construction company  
And he said there is not one  
Contractor who would do this. It  
would be cost prohibitive. the  
Tire sidewalls would break down, over  
heat and blow out. The fuel con-  
sumption would be excessive, And  
the lighter loads would Kill him,  
as he gets paid by the ton-mile.

Now for my other concern,  
My wife and I own a house in  
George town. We have five wonderful  
children who have families, and

many relatives and friends who visit us from time to time. They all just love Georgetown as we do.

One of the highlights of their visits is a leisurely drive up and over Guanella Pass to see the beautiful sights, and to pull over occasionally to check out a waterfall or a couple of deer, without the fear of heavy traffic endangering our safety.

What a thrill it is to round a curve and see 15 or 20 goats grazing in front of us. Thank God we are only traveling 15 or 20 mph. I shudder to think what would happen if this were a high speed road and another car or truck came around the other side of the curve at a high rate of speed.

There are many fine high speed roads in our country for those who are in a hurry. Please use them.

(4)

if this is the case.

"Save the Quanella Pass Road  
so our children and their children  
can enjoy the beauty and wonders  
of nature that we enjoy so much  
today.

Once this road is destroyed  
It may never be restored to its  
Natural beauty of today.

Sincerely

John Peters  
PO Box 155  
918 Taos  
Georgetown  
CO 80444  
303-569-0757

MARK UDALL  
2ND DISTRICT, COLORADO  
  
128 CANNON HOB  
WASHINGTON, D.C. 20515  
(202) 225-2161  
(202) 226-7840 (FAX)

1333 WEST 120TH AVENUE  
SUITE 210  
WESTMINSTER, CO 80234  
(303) 457-4500  
(303) 457-4504 (FAX)  
<http://www.house.gov/markudall>



**Congress of the United States**  
**House of Representatives**  
**Washington, DC 20515-0602**

December 28, 2000

COMMITTEE ON RESOURCES  
SUBCOMMITTEE ON NATIONAL PARKS  
AND PUBLIC LANDS  
SUBCOMMITTEE ON FORESTS  
AND FOREST HEALTH  
  
COMMITTEE ON SCIENCE  
SUBCOMMITTEE ON SPACE  
AND AERONAUTICS  
SUBCOMMITTEE ON TECHNOLOGY  
  
COMMITTEE ON SMALL BUSINESS

Larry Smith, Division Engineer  
Central Federal Lands Highway Division  
Federal Highway Administration  
U.S. Department of Transportation  
555 Zang Street, Room 250  
Lakewood, CO 80228

Dear Mr. Smith:

As you know, I have been keenly interested in the proposed plans by the Federal Highway Administration (FHWA) to address transportation issues on Guanella Pass. This scenic byway is an important asset to the state. Although this road could use some improvements, the input and the concerns of the communities surrounding this road must be given serious attention and full consideration.

With this in mind, I wish to add my voice to those who have requested additional time to review the new alternative being considered by the FHWA that is now out for public comment. This alternative was released during the busy holiday season. As a result, I am concerned that many have not had the time to carefully review and comment on this alternative.

Given the importance of this issue to the public and the nearby communities, the complexity of the issues and need to carefully consider all information, I would urge the FHWA to provide an additional 30 days of public comment. I would like to point out that another federal agency, the National Park Service, recently extended its public comment period regarding snowmobile use at Rocky Mountain National Park until the end of February due to the level of concern and the timing of the plan's release during the holidays. I would hope that the FHWA would be similarly accommodating with regard to the process and proposals at issue here with Guanella Pass.

Thank you for seriously considering this request.

Sincerely,

Mark Udall

cc: Clear Creek County Commissioners

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*

December 22, 2000

Richard Cushing  
Federal Highway Administration  
Central Federal Lands Highway Division (HPD-16.5)  
555 Zang Street Suite 259  
Lakewood, CO 80228

RE: Supplemental Draft Environmental Impact Statement – Guanella Pass Road Improvements

Dear Mr. Cushing:

This document has been reviewed by our staff and we have the following comments on this document. The comments in our October 15, 1999 letter on the Draft EIS still apply and are not repeated here unless they specifically apply to the current document.

**Potential for Increased Human Use** – We had raised the issue of an improved roadway leading to greatly increased human presence in the area. This increased use might impact wildlife through disturbance, direct impacts to habitat, and generally by “fragmenting” wildlife habitats through human presence. Alternative 6 would appear to be a significant improvement over most other alternatives in that it calls for considerably less paved road, lower vehicle speeds, and less road widening. We would assume that these changes would result in less human use of the area. One point to note, however, is that even though only a small amount of new paving is called for, some of the alternative surface treatments for graveled portions of the road appear to closely mimic pavement and may serve to improve the road surface enough to encourage increased use.

**Direct Impacts to Roadside Habitats** - Alternative 6 results in significantly reduced impacts to wetland, riparian, and boreal toad habitats – all very positive from a wildlife standpoint. As expressed in our earlier comments, we would like to work closely with your staff on trying to further minimize impacts to these important habitats.

**Possible Winter Closure of the Road** - Closure of the road in winter, or reduced maintenance, is very likely to be a plus for wildlife by reducing disturbance due to winter recreational use and to a lesser extent by vehicle traffic. Ptarmigan, bighorn sheep, and lynx (if present) would all likely benefit.

**Retaining Walls/Vertical Cut Banks** - There are several places along the road where there will

DEPARTMENT OF NATURAL RESOURCES, Greg E. Walcher, Executive Director  
WILDLIFE COMMISSION, Bernard L. Black, Jr., Chairman • Rick Enstrom, Vice-Chairman • Philip James, Secretary  
Members, Tom Burke • Mark LeValley • Marianna Raftopoulos • Robert Shoemaker • Olive Valdez  
Ex-Officio Members, Greg E. Walcher and Don Ament

be construction of retaining walls up to 20 feet in height and for distances up to 3,248 feet in length. Some of these are in areas used by bighorn sheep, deer and elk as well as other wildlife.

Page C-2 lists all of the proposed walls. We are concerned that in some cases these walls may be impassable by wildlife, thereby disrupting movements and possibly leading to increased vehicle/wildlife collisions in some areas.

There are 5 specific locations of concern on the south side of Guanella Pass that have been identified as having some type of retaining walls constructed:

1. Geneva Canyon – cut walls with an average height of 4 feet for 427 feet in length in two sections. Page B-15
  - This is in the wintering area for bighorn sheep. This area is used extensively by wintering bighorn sheep.
2. Falls Hill Segment B - cut side walls (upper side of road) approximately 10 to 20 feet high and approximately 558 feet long, and two sections of “low” 6 to 10 feet high MSE fill side wall totaling 547 feet in length on the lower switchback and another “low” MSE wall just above the upper switchback for 328 feet. Page B-16
  - This area is used by bighorn sheep from spring to early summer. The rock outcrop area on the west side of Geneva Creek is a lambing area that was identified when the construction proposal was first made. This lambing area is not used unless the alpine lambing areas are snowed in. If bighorn sheep are using this area during mid April through the last of June, it is requested that no construction be done at this time to avoid disrupting lambing activity.
3. Shelf Road – Park County - 10 foot high MSE retaining wall for 1.03 miles, 5438 feet in length. Page B-17 & 18.
  - The upper side of the road in this section has problems which need to be addressed, but the 10 foot high MSE retaining wall over a mile in length raises serious concerns about impacts to animal movements. The upper 1/3 is used by bighorn sheep, the lower 2/3 is not normally used. We would like to work closely with your staff to try to find ways to solve the problems with perhaps a less drastic solution.
4. Shelf Road – Clear Creek County – MSE fill wall averaging 10 feet in height for an additional 3330 feet, for a total of 8768 feet of MSE fill wall in approximately a 2 mile section. Page B-18
  - This 3330 foot section is used by deer, elk and bighorn sheep. It is important to provide escape and access capabilities along this section of roadway. The upper side of the roadway is not scheduled for retaining walls.
5. Above Duck Lake – average MSE retaining wall height of 6 feet for 0.25 miles. Page B-20
  - The area above Duck Lake is used mostly by deer and small mammals.

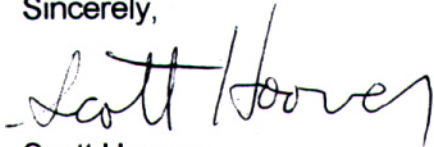
There may be additional areas of concern which we were not able to identify by the comment deadline – we will provide further specific information later if necessary.

One way to reduce the impact of vertical walls on wildlife might be to provide tiered "shelves" on the wall with an offset of 3 to 4 feet to allow sheep, deer, elk and small mammals to escape off the roadway. Another alternative might be to slope the retaining walls with a rough or textured type surface to allow for footholds for wildlife. This would probably be a better alternative where the height of the walls exceeds 8 feet. This is clearly a complicated issue, but an important one which we would like to work closely with your staff to resolve.

**Mitigation Measures** – The proposed mitigation measures for wetland, riparian, and wildlife impacts (Pages V-5 and V-7) appear to be excellent!

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

Sincerely,

A handwritten signature in black ink that reads "Scott Hoover". The signature is written in a cursive, flowing style.

Scott Hoover  
Regional Manager

Cc: Russ Mason, Ron Oehlkers, Janet George, Mindy Clark – CDOW

# United States Senate

WASHINGTON, DC 20510-0605

December 19, 2000

The Honorable Kenneth R. Wykle  
Administrator  
Federal Highway Administration  
U.S. Department of Transportation  
400 Seventh Street, S.W.  
Washington, D.C. 20590

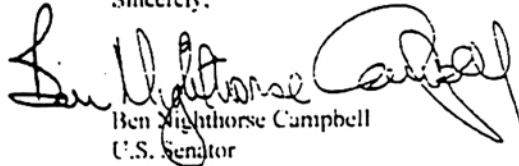
Dear Mr. Wykle:

Because we all strive to be responsive to constituent's concerns, I am forwarding the attached correspondence from a constituent of mine who has questions or concerns relevant to the Federal Highway Administration.

Please carefully review this information and advise me of your action in this matter by written reply. Your timely response should be directed to my Englewood office at the address listed below.

Thank you for your cooperation.

Sincerely,

  
Benighthorse Campbell  
U.S. Senator

BNC:pw



# STATE OF COLORADO

Bill Owens, Governor  
Jane E. Norton, Executive Director

*Dedicated to protecting and improving the health and environment of the people of Colorado*

4300 Cherry Creek Dr. S.  
Denver, Colorado 80246-1530  
Phone (303) 692-2000  
TDD Line (303) 691-7700  
Located in Glendale, Colorado

Laboratory and Radiation Services Division  
8100 Lowry Blvd.  
Denver CO 80230-6928  
(303) 692-3090



Colorado Department  
of Public Health  
and Environment

<http://www.cdphe.state.co.us>

December 4, 2000

Mr. Robert Vance  
Park County Road & Bridge Department  
P.O. Box 147  
Fairplay, CO 80440

Dear Mr. Vance:

On September 20, 2000 I received a complaint regarding the Park County portion of the Guanella Pass road. The complainant alleged that the road had become seriously neglected and that the dust was becoming bad from the traffic use.

I contacted you by telephone to discuss this complaint with you and regarding a dust control plan for the road. At the time you stated that the road was subject to a federal proposal for paving which would in fact serve as a dust control plan. If this federal plan is not initiated then the county would be required to furnish a dust control plan detailing how dust on Guanella Pass road would be controlled for that portion of the road within Park County.

If you have any questions please call me at 303 692 3157.

Sincerely

Hugh M. Davidson  
Environmental Protection Specialist  
Air Pollution Control Division



**NOV 15 2000**

In Reply Refer To:  
HPD-16

Agencies, Organizations, and Citizens:

Enclosed is a copy(s) of the Supplemental Draft Environmental Impact Statement (SDEIS) for a proposed improvement of Colorado Forest Highway 80, Guanella Pass Road. The document evaluates a new alternative that was developed after publication of the Draft Environmental Impact Statement.

Public hearings will be held to provide opportunities for citizens to learn more about the new alternative and to present oral and/or written comments. At each hearing, there will be an open house period followed by presentations from agency representatives and an opportunity for the public to make formal presentations. A court reporter will make a verbatim transcript for the public hearing record. The public hearings will be held as follows:

Monday, December 4, hosted by Park County Commissioners, Crow Hill Fire Station (near Bailey), open house: 5:30-6:45 p.m., formal session: 7:00-9:00 p.m.

Tuesday, December 5, hosted by the Town of Georgetown, Georgetown Community Center, open house: 7:00-7:30 p.m., formal session: 7:30-9:00 p.m.

Wednesday, December 6, hosted by FHWA, 555 Zang Street, 3rd floor conference room, Lakewood, CO (off the frontage road southwest of 6th Ave. and Union Blvd.), open house: 5:30-6:45 p.m., formal session: 7:00-9:00 p.m.

Thursday, December 7, hosted by Clear Creek County Commissioners, Georgetown Community Center, open house: 5:30-6:45 p.m., formal session: 7:00-9:00 p.m.

Copies of the Supplemental Draft Environmental Impact Statement are available for review at the following locations:

Arapaho National Forest, 240 West Prospect Street, Fort Collins, CO  
Arapaho National Forest, 101 Chicago Creek, Idaho Springs, CO  
Federal Highway Administration, 555 Zang Street, Environment Section, Lakewood, CO  
Tomay Memorial Library, 605 6th Street, Georgetown, CO  
Clear Creek County, 405 Argentine Street, Georgetown, CO  
Denver Public Library, 10 West 14th Avenue, Denver, CO  
Pike National Forest, 1920 Valley Drive, Pueblo, CO

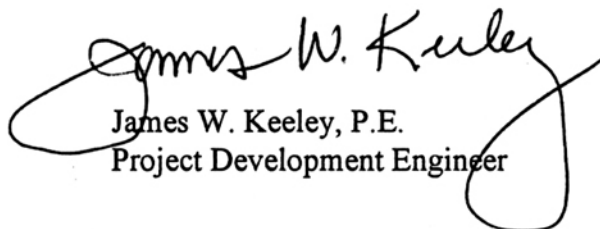
Pike National Forest, 19316 Goddard Ranch Court, Morrison, CO  
US Forest Service, Region 2, 740 Simms Street, Golden, CO  
Park County Library, 418 Main Street, Fairplay, CO  
Park County Library, 350 Bulldogger Road, Bailey, CO  
Park County Clerk and Recorder, 501 Main Street, Fairplay CO  
Internet at: [www.cflhd.gov/projects/co/guanella](http://www.cflhd.gov/projects/co/guanella)

We invite all interested persons to attend the hearings. Comments may also be sent to:

Attention: Environment  
Federal Highway Administration  
555 Zang Street (Room 259)  
Lakewood, CO 80228

Comments received by January 16, 2001, will become a part of the official public hearing record.

Sincerely yours,



James W. Keeley, P.E.  
Project Development Engineer

Enclosure(s)



U.S. Department  
of Transportation

**Federal Highway  
Administration**

Central Federal Lands  
Highway Division

555 Zang Street, Room 259  
Lakewood, CO 80228

**SEP 19 2000**

In Reply Refer To:

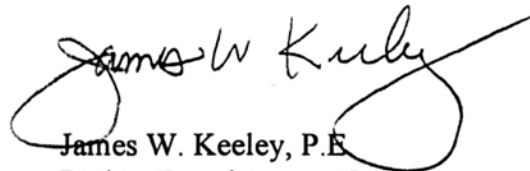
HPD-16

Dear Interested Citizens, Organizations, and Government Agencies:

In our July 2000 newsletter, we informed you that the test strips using different types of surface materials would be constructed in July and August of this year. Due to difficulty in finding and retaining a contractor, the Federal Highway Administration (FHWA) has been unable to construct these test strips. Procurement of a contract to perform the work is in progress; however, even if the contract is secured, at least two of the six test strips, and, depending on the weather, possibly more, will not be constructed until next spring. The two test strips, Permzyme and Road Oyl, need to be constructed under consistently warm conditions. At the earliest, construction will not occur until mid-October when the weather consists of colder temperatures and possibly snow. Even though the test strips will not be constructed until possibly April or May, there will still be an opportunity for people to drive over these test strips and get a sense of the look and feel of these surface-types before the FHWA completes its environmental review and decision process. The FHWA will continue to notify you of future changes regarding the test strips. We apologize for any inconvenience this may have caused you. Thank you for your patience.

If you have any comments or questions please contact either Messrs. Mark Taylor, 303-716-2124 or Rick Cushing, 303-716-3138 at Central Federal Lands Highway Division, 555 Zang Street, Room 259, Lakewood, Colorado 80228.

Sincerely yours,



James W. Keeley, P.E.  
Project Development Engineer

bc: Mr. Steve Pouliot, Washington Infrastructure Services, Inc., 15000 W. 64<sup>th</sup> Ave.,  
PO Drawer 1307, Arvada, CO 80001  
L. Smith, HFL-16  
R. Cushing/J. Corwin  
M. Taylor/G. Strike  
yc: reading file

Central file - CO PFH 80, Guanella Pass

JCORWIN:jm:9/19/00:L\environm\wp\co80\correspondence\teststrips.wpd



AUG 09 2000

In Reply Refer To:  
HPD-16

Agencies, Organizations, Citizens:

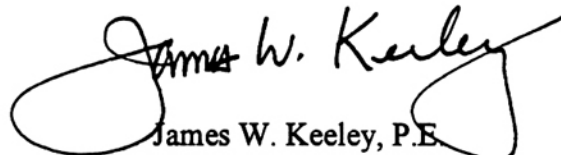
The July 2000 issue of the Guanella Pass Newsletter stated that a Supplemental Draft Environmental Impact Statement (SDEIS) would be released for public review on August 15, 2000. Based on comments received from various agencies and the general public on the newsletter, the Federal Highway Administration (FHWA) concluded that some issues needed to be addressed in greater detail than originally anticipated. In addition to describing the new alternative and the possible environmental impacts resulting from it, two appendices will be added to the SDEIS. One will discuss the reasoning for the type of construction activity (rehabilitation, light reconstruction, full reconstruction) that will occur at each of the 32 segments, and the other will discuss the reasoning for the selection of the alternative's design elements. The schedule for release and public review of the SDEIS has been revised as follows:

- 1) The SDEIS is tentatively scheduled to be released for public review in mid-October, 2000.
- 2) Public hearings would then be held in November. The public hearings will each include formal presentations with questions and answer sessions as well as time reserved for open-house interaction during which a number of information stations will be set up and staffed by agency and resource personnel.

Construction of the alternative surfacing test strips is scheduled for August. We would appreciate any comments from those of you who get a chance to drive over the test strips. Comments can be sent to: Richard Cushing, Environmental Planning Engineer, FHWA-CFLHD, 555 Zang Street, Suite 259, Lakewood, CO 80228.

We apologize for any inconvenience this schedule revision may have caused. The schedule revision is needed to allow the FHWA to develop a document that addresses all pertinent agency and public concerns as thoroughly as possible. Thank you for your patience.

Sincerely yours,



James W. Keeley, P.E.  
Project Development Engineer



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

Central Federal Lands  
Highway Division

555 Zang Street, Room 259  
Lakewood, CO 80228

JUL 11 2000

In Reply Refer To:  
HPD-16

Mr. Roland McCook  
Ute Indian Tribe  
PO Box 190  
Fort Duchesne, UT 84026

Dear Mr. McCook:

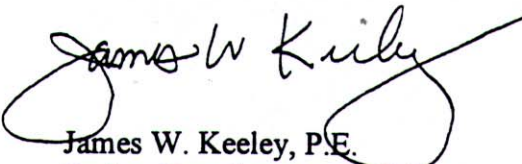
Enclosed are copies of the following documents:

- 1) An Intensive Cultural Resources Survey along the Guanella Pass Road, Colorado Forest Highway 80
- 2) An Intensive Cultural Resources Survey along the Guanella Pass Road, Colorado Forest Highway 80 - Appendices A through K
- 3) An Addendum to an Intensive Cultural Resources Survey along the Guanella Pass Road, Colorado Forest Highway 80
- 4) An Addendum to an Intensive Cultural Resources Survey along the Guanella Pass Road, Colorado Forest Highway 80 - Appendix A: Site Forms
- 5) Archaeological Testing at the Tumbling River Rockshelter (5PA142)
- 6) Native American Studies Technical Report

These documents were requested by Messrs. Smiley Arrowchis and Kirby Reed, members of the Northern Ute Business Committee, during the March 10, Northern Ute Business Committee and Forest Service Meeting.

If you have any questions please do not hesitate to contact Mr. Steve Hallisy at 303-716-2140.

Sincerely yours,

  
James W. Keeley, P.E.  
Project Development Engineer

Enclosures

cc w/o enclosures:

Donna Mickley, US Forest Service, Special Projects Manager, Rocky Mountain Region 2,  
PO Box 25127, Lakewood, CO 80225-0127  
Ms. Betsy Chapoose, Sec. 106 Coordinator, Cultural Rights & Protection Office,  
PO Box 190, Fort Duchesne, UT 84206

A-107

bc w/o enclosures:

S. Hallisy

M. Taylor

J. Corwin *J. Corwin*

yc: reading file

Central File: CO FH 80, Guanella Pass Road

JCORWIN:sh:jm:7/11/00:L:environm\wp\CO80\utereq0600.wpd

June 9, 2000

**Bob Nestel, Wildlife Biologist,  
Federal Highway Administration  
555 Zang Street, Room 259  
Lakewood, Colorado**

**Re: Guanella Pass Scenic and Historic Byway, Alternative 6**

**Dear Bob,**

**On behalf of all of our members, I am extending our thanks to you and everyone who met with us on May 25<sup>th</sup> for taking the time and trouble to discuss the FHWA's proposed Alternative 6 for the Guanella Pass project with us. We appreciate the FHWA's effort to communicate with us, and we look forward to meeting with a smaller team on June 14<sup>th</sup> to further discuss the proposed plan.**

**I am faxing a list of some preliminary comments that we have concerning the Draft Description of Alternative 6. We hope that these comments will help to clarify some of the concerns that we have, and that the information we request will be of help to everyone who is involved or interested in this project. We will have additional comments to make at the meeting on the 14<sup>th</sup>.**

**Thanks again, and see you next Wednesday.**

**Sincerely,  
Lyn Yarroll  
Chair, Guanella Pass Study Group, Mount Evans Group of the Sierra Club**

**enc: PRELIMINARY Comments on of Alternative 6 (based on Draft Description)**



June 9, 2000

**TO:** Bob Nestel, Wildlife Biologist, Federal Highway Administration  
**FROM:** Lyn Yarroll, Chair, Guanella Pass Study Group,  
Mount Evans Group of the Sierra Club  
**RE:** Guanella Pass Scenic and Historic Byway, Proposed Improvements  
PRELIMINARY Comments on of Alternative 6 (based on Draft Description)

Functional Classification

We applaud the FHWA's decision to change the road's functional classification from "collector" to "local." This more closely resembles the nature and intent of the byway.

Design vehicle

This continues to be a confusing issue. We need the FHWA to provide a clear explanation of why the road is being designed for a vehicle with a 17-foot wheelbase (which can be up to 35 feet long), when 97% of the vehicles currently using the road (as counted in the Automatic Traffic Count Recorder Summary) are only 20 feet long. We do understand that larger vehicles sometimes need to use the road. However, if the proposed road (including switchbacks) will not be narrower than the existing design, we logically assume that any vehicle that can use the road now will also be able to use it in the future.

Levels of construction

We are having difficulty comparing the three levels of construction (3R, Light Reconstruction and Full Reconstruction) against each other. A table that compares what types of improvements are, and are not, possible within each level would be very helpful to everyone.

Additional questions and concerns

Some important questions and concerns are not addressed in this draft description, including, but not limited to:

- Determination of need for improvement of the road. The primary example is safety: has it been statistically and unequivocally determined that improving the road under any of the alternatives will decrease the number and severity of auto accidents, including both vehicle/vehicle and vehicle/animal?
- Amount of guardrail. How many miles of guardrail will be installed in Alternative 6? Is it the same for all alternatives?
- Summit parking lot. Will the size and configuration of the parking lot remain the same as what is described in the Draft EIS?

Context-sensitive design

We continue to strongly encourage the FHWA to incorporate context-sensitive design techniques throughout this project. Although this presents some tough engineering challenges, we believe that this road, done right, could be a showcase for future generations.

Thank you for your consideration of these comments.

Respectfully submitted,

Lyn Yarroll



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

Central Federal Lands  
Highway Division

555 Zang Street  
Denver, Colorado 80228

**DEC 21 1999**

In Reply Refer To:  
HFL-16

The Honorable Mark Udall  
Member, United States House of Representatives  
1333 West 120th Avenue, Suite 210  
Westminster, CO 80234

Dear Mr. Udall:

I received your November 10, 1999, letter concerning the Federal Highway Administration's (FHWA) activities related to potential improvements to the Guanella Pass road south of Georgetown, Colorado.

I understand your position of support for the Clear Creek County Commissioners and many of the Clear Creek County residents who urge FHWA to seriously consider the Sierra Club's rehabilitation alternative. We have met with representatives of the Sierra Club to pursue a better understanding of their alternative and will continue to consider it throughout the decision making process.

I assure you that we will continue to work with the U.S. Forest Service, the Colorado Department of Transportation, Clear Creek County, Park County, and Georgetown to understand the public input received on the draft environmental impact statement. These comments have now been organized and we are planning meetings with the above agencies, starting in January 2000, to pursue the decision process for this project with them.

Sincerely yours,

**ORIGINAL SIGNED BY  
LARRY C. SMITH**

Larry C. Smith, P.E.  
Division Engineer

bc:  
HPD-16, Keeley / Taylor  
JKEELEY:la:12/20/99



U.S. Department  
of Transportation

**Federal Highway  
Administration**

Central Federal Lands  
Highway Division

555 Zang Street, Room 259  
Lakewood, CO 80228

**DEC 10 1999**

In Reply Refer To:  
HPD-16

Ms. Georgianna Contiguglia  
State Historic Preservation Officer  
Colorado Historical Society  
1300 Broadway  
Denver, CO 80203-2137

Attention: Ms. Kaaren K. Hardy

Dear Ms. Contiguglia:

Subject: Colorado Forest Highway 80, Guanella Pass Road

Enclosed for your review and comment is the final report entitled "Archaeological Testing At The Tumbling River Rock Shelter (5PA142), Park County, Colorado." In your letter of February 22, 1999 you requested that the Federal Highway Administration (FHWA) perform test excavations at Site 5PA142, in order to determine the extent of potential subsurface archaeological resources, if any. In September 1999, personnel from SWCA, Inc., conducted test excavations at Site 5PA142 under contract to the FHWA. Based on the report findings documenting the lack of evidence for any substantial prehistoric occupation at the site, the FHWA recommends that Site 5PA142 is not eligible for listing on the National Register of Historic Places. The United States Forest Service concurs with this recommendation. (See enclosed copy of their letter dated October 28, 1999.)

Pursuant to 36 CFR 800, we ask for your concurrence on our recommendation that Site 5PA142 does not meet any of the criteria for listing on the National Register of Historic Places. If you have any questions, please contact Mr. Stephen Hallisy, Environmental Protection Specialist, at 303-716-2140 or write to the above address, Attention: HPD-16, Environment.

Sincerely yours,

Larry C. Smith, P.E.  
Division Engineer

**RECEIVED**

**DEC 13 1999**

**CHS/OAHP**

Enclosures

cc w/enclosures:

Mr. Allen Kane, Pike & San Isabel National Forests, 1920 Valley Drive, Pueblo, CO 81008-1797

Mr. Robert Porter, PO Box 4676, Breckenridge, CO 80424

I concur State Historic Preservation Officer

Date December 22, 1999

MARK UDALL  
2ND DISTRICT, COLORADO

128 CANNON HOB  
WASHINGTON, D.C. 20515  
(202) 225-2161  
(202) 226-7840 (FAX)

1333 WEST 120TH AVENUE  
SUITE 210  
WESTMINSTER, CO 80234  
(303) 457-4500  
(303) 457-4504 (FAX)



**Congress of the United States**  
**House of Representatives**  
**Washington, DC 20515-0602**

CL99-51

COMMITTEE ON RESOURCES  
SUBCOMMITTEE ON NATIONAL PARKS  
AND PUBLIC LANDS  
SUBCOMMITTEE ON FORESTS  
AND FOREST HEALTH  
COMMITTEE ON SCIENCE  
SUBCOMMITTEE ON SPACE  
AND AERONAUTICS  
SUBCOMMITTEE ON TECHNOLOGY  
COMMITTEE ON SMALL BUSINESS

November 10, 1999

Mr. Larry Miller  
Division Engineer  
U.S. Federal Highway Administration  
U.S. Department of Transportation  
555 Zang Street, Room 259  
Lakewood, CO 80228

Dear Mr. Miller:

As you know, I have been very interested the Federal Highway Administration's (FHWA) activities related to potential improvements to the Guanella Pass road south of Georgetown, Colorado. This past summer and fall, I urged the FHWA to extend the public comment period on the Draft Environmental Impact Statement (DEIS) for this project to solicit public input.

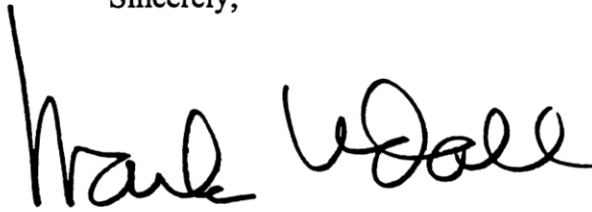
I appreciate the additional time that the FHWA allowed for public comments on the environmental impact analysis performed on the project. This additional time allowed Clear Creek County to conduct a process of garnering public input throughout the county on the proposed plans being considered by FHWA. As a result of that effort, Clear Creek County has decided to urge FHWA to develop an addendum to the DEIS that evaluates the rehabilitation alternative as outlined by the Sierra Club. This alternative focuses on the needs to improve this road and reduce environmental and safety impacts without significant widening or paving.

I want to take this opportunity to add my voice to that of the Clear Creek County Commissioners — as well as those of many Clear Creek County residents — in urging the FHWA to seriously consider this rehabilitation alternative as opposed to the FHWA's existing focus on proposals for reconstruction, paving and widening this road.

In addition, I have noted with interest the explanation of Kenneth Wykle, Administrator of the FHWA, that this road is under the jurisdiction of Clear Creek and Park Counties and that, as a result, the FHWA will work with the counties to decide what is appropriate for this road. I would like to encourage the FHWA to continue to work with the counties and the local citizens who would be most directly affected by this project to arrive at an acceptable resolution of all outstanding questions. I hope that the next iteration of the environmental impact documentation reflects this public input so that we can all come together on an approach that makes sense for this area and this road.

Thank you for your consideration.

Sincerely,

A handwritten signature in black ink that reads "Mark Udall". The signature is written in a cursive, flowing style.

Mark Udall



United States  
Department of  
Agriculture

Forest  
Service

Pike and San Isabel  
National Forests  
Cimarron and Comanche  
National Grasslands

1920 Valley Dr.  
Pueblo, CO  
81008-1797  
(719) 545-8737

File Code: 2360

Date: October 28, 1999

Mr. Larry C. Smith, Division Engineer  
U.S. Department of Transportation, Federal Highway Administration  
Central Federal Lands Highway Division  
555 Zang Street  
P.O. Box 25246  
Denver, CO. 80225-0246

Dear Mr. Smith,

In response to your request for comment (refer to your letter dated October 20, 1999), we have reviewed the draft report of archeological testing conducted at the Tumbling River Rock Shelter (site 5PA142). The report was prepared by SWCA, Inc., Environmental Consultants, Mark Chenault and Kevin Thompson, principal investigators. We concur that the site is not eligible to the National Register of Historic Places based on the results of the testing. We have annotated the copy of the draft you sent us with editorial type comments, and we are remitting the annotated copy to you (enclosure 1). Once these are addressd, the report will be acceptable to the Forest Service. Thank you for the opportunity to review the document. If you have any questions regarding our review please contact me at the Pike National Forest Headquarters in Pueblo.

Sincerely,

Allen E. Kane  
Heritage Resources Program Manager

Enclosure: annotated copy of draft report



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U.S. Department  
of Transportation  
**Federal Highway  
Administration**

Central Federal Lands  
Highway Division

555 Zang Street, Room 259  
Lakewood, CO 80228

OCT 20 1999

In Reply Refer To:  
HPD-16

Mr. Bill Bass  
Forest Supervisor  
Pike-San Isabel National Forest  
1920 Valley Drive  
Pueblo, CO 81008-1797

Attention: Mr. Alan Kane

Dear Mr. Bass:

Subject: Colorado Forest Highway 80, Guanella Pass Road

Enclosed for your review and comment is a draft report for archaeological testing conducted at the Tumbling River Rock Shelter, site 5PA142. We request that you provide comments within the next 10 days. If you have any questions, please contact Mr. Stephen Hallisy, Environmental Protection Specialist/Archeologist, at 303-716-2140 or write to the above address, Attention: HPD-16, Environment.

Sincerely yours,

Larry C. Smith, P.E.  
Division Engineer

Enclosure

bc w/o enclosures:

S. Hallisy

M. Taylor

yc: reading file

Central file -CO FH 080, Guanella Pass

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*jm*

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

699



*For Wildlife -  
For People*

John W. Mumma, Director  
6060 Broadway  
Denver, Colorado 80216  
Telephone: (303) 297-1192

October 15, 1999

Richard Cushing  
Federal Highway Administration  
555 Zang Street Mail Room 259  
Lakewood, CO 80228

RE: Guanella Pass Road – Draft EIS

Dear Mr. Cushing:

I have reviewed this Draft EIS and discussed it with District Wildlife Manager Russ Mason and Aquatic Biologist Mindy Clark. We have the following general and specific comments.

A number of wildlife related issues are raised by the proposals to improve the Guanella Pass Road. This document does a good job of discussing most of them in our opinion. The two most important issues are, we believe:

- **The potential to increase human use** of the corridor along the road due to road improvement - whether it be for hiking, picnicking, fishing, camping, hunting, or sightseeing. Increased human presence in the corridor will clearly have negative effects on wildlife through increased direct disturbance, trampling of vegetation, noise, etc. While the road improvements alone may not serve to fragment the habitat much more than it already is, significantly increased human presence along the road would seem to be a major "fragmenting" factor, and
- **The direct impacts on roadside habitats of proposed widening** would appear to be a significant impact, especially where streams, wetlands, riparian areas, and boreal toad habitat are affected.

We assume that to a large degree increased human use of the corridor relates to how easy and/or comfortable road access is into the area. The alternatives which serve to make access on the road "easiest" would appear to be 2, 4, and 5 since they would result in 85% or more of the road being paved. Alternative 3 results in only 48% of the roadway being paved, but with the entire length widened. Direct impacts to roadside habitats are clearly much greater in Alternatives 2 and 3 due to the increased amount of widening.

DEPARTMENT OF NATURAL RESOURCES, Greg Walcher, Executive Director  
WILDLIFE COMMISSION, Chuck Lewis, Chairman • Mark LeValley, Vice Chairman • Bernard L. Black, Jr., Secretary  
Members, Rick Enstrom • Marianna Raftopoulos • Arnold Salazar • Robert Shoemaker • Philip James



## Specific Comments:

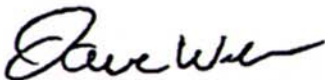
- Page II-3 – First paragraph – If cut and fill slopes or retaining walls are to be vertical and impassable to wildlife for any significant length, they may represent new barriers to wildlife movement, which could be a significant issue. This subject is not addressed in the DEIS and should be covered in the Final.
- Page III-36 – Wetlands – Details of a mitigation plan for anticipated impacts are not discussed in the DEIS. They would obviously be part of a 404 Permit process when the project moves forward, and might be covered in the Final EIS. The degree to which the increased wetland impacts under Alternatives 2 and 3 would be a major issue depends to some extent on what kinds of mitigation are feasible or possible.
- Page III-78 – Boreal Toads – We would like to participate in a more detailed analysis of widening impacts on boreal toad habitat prior to the Final EIS. A closer examination of where important toad habitats are located may lead to ideas for specific local modifications to the plans which would be beneficial to the toads.
- Page III-116 – Construction Impacts – Construction equipment brought into the area should be free of noxious weed seed contamination. We do not want new noxious weeds introduced into the area. Also, special care should be used during construction to prevent excess erosion in disturbed areas and siltation into streams/wetlands.
- Page IV-7 – Wildlife Mitigation – All of these ideas are good, but they could not totally mitigate the indirect effects of increased human use of the area due to road improvement.

## Summary

We think that Alternative 2 would clearly result in the most negative impacts to wildlife, both direct and indirect. The direct impacts of Alternative 3 would be comparable, but this alternative has the appeal of involving the least paved surface, therefore perhaps resulting in less visitation by people to the area. Alternatives 4 and 5 both result in 85% of the road being paved, which may encourage considerably more use in the long run, but have significantly less direct impact on habitat. It appears to us that increased human use of the area due to road improvement is a key wildlife issue which deserves more analysis in the final EIS.

Let me know if you have any questions.

Sincerely,



Dave Weber  
Habitat Biologist

cc: Russ Mason, DWM  
Ron Oehlkers, DWM  
Mindy Clark, CDOW



# Clear Creek County

POST OFFICE BOX 2000  
GEORGETOWN, COLORADO 80444

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

689

October 13, 1999

Mr. Richard Cushing  
Environmental Planning Engineer  
Federal Highway Administration  
Central Federal Lands Highway Division  
555 Zang St., Mail Room 259  
Lakewood, CO 80228

Dear Mr. Cushing:

Clear Creek County would like to offer these comments in summary of our review of the DEIS and the concerns that were raised during our public hearing process. We also want to express our appreciation to the FHWA for the support they offered during that process. By providing a court recorder at each of our public meetings we are all assured of a complete and accurate record of the comments and issues. The FHWA staff who attended these meetings were able to provide clarification of both the process and the project.

The issues of greatest concern to the Clear Creek County Commissioners are the affordability of road maintenance, safety of travelers, and correction of existing environmental problems. We heard from our constituents the importance of balancing those concerns with maintaining the rural, rustic character of the road.

In addition, our Road and Bridge Supervisor, Jim Cannady, has enclosed the following concerns:

- ▶ The impacts to the environment if nothing is done
- ▶ Water quality with the entire portion paved (Clear Creek County)
- ▶ Water quality if existing surface type remains the same
- ▶ Wildlife travel corridors, and solutions to minimize the impacts to wildlife from automobile encounters
- ▶ The benefit to the riparian areas versus damage to timbered areas if alignment changes are made at the Naylor Lake/Guanella Campground area
- ▶ Impacts to the Town of Georgetown (long term and construction)
- ▶ Any benefit/detriment from winter closure

As a result, we are requesting the FHWA do an addendum to the DEIS that will evaluate a lower impact alternative similar to one recommended by the Sierra Club. Specifically, we would like to see the evaluation include new surface treatments as an alternative to asphalt.

We also believe we need a better understanding of the cost effects on maintenance - not only on the cost of the FHWA-recommended program, but also the effect on a road maintenance program that is consistent with the historic expenditures of Clear Creek County.

At several meetings, safety issues were raised -- particularly the concern that an increase in speed on a paved road would tend to increase accidents. Evidence was presented that seemed to validate this concern. We would like to have a better understanding of this issue and possible mitigation strategies.

We would also like a clearer understanding of the environmental benefits, including expected changes in water quality that may result from the various alternatives.

Finally, winter closure was discussed at nearly all of our public meetings. We are requesting an evaluation of the effect of such a policy on the road itself and on the cost of maintenance related to the proposed alternatives. Seasonal closure would undoubtedly raise issues for our partners that ought to be examined as well, and we will look forward to a discussion with them.

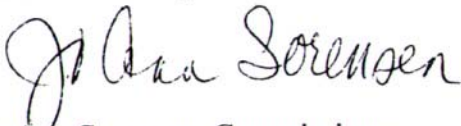
As we hope we made clear throughout this process, it is not our intent to suggest that this project be discarded. We have determined that it is in the best long-term interests of Clear Creek County to address the problems on Guanella Pass Road at this time, with the full participation of our partners. We look forward to working with you on the next steps of the environmental process.

Sincerely,

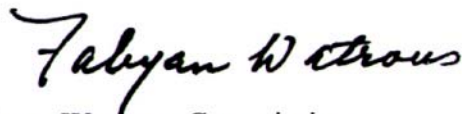
CLEAR CREEK BOARD OF COUNTY COMMISSIONERS



Robert J. Poirot, Chairman



Jo Ann Sorensen, Commissioner



Fabyan Watrous, Commissioner



**Historic Georgetown, Inc.**

687

October 12, 1999

Mr. Richard Cushing  
Environmental Planning Engineer  
Federal Highway Administration  
Central Federal Lands Highway Division  
555 Zang Street, Mail Room 259  
Lakewood, Colorado 80228

Dear Mr. Cushing,

The Board of Directors of Historic Georgetown, Inc. would like to take this opportunity to comment upon the Draft Environmental Impact Statement for Colorado Forest Highway 80, Guanella Pass Road. As you might expect, our comments are in keeping with the position statement issued by the Town of Georgetown and the Georgetown Planning Commission. We believe that the design standards used for engineering the road create impacts that far outweigh the benefits. Based upon the existing alternatives, we find none that we can support at this time. However, we look forward to the development of additional alternatives which would have less adverse impact to the character of the Georgetown/Silver Plume National Historic Landmark District.

We are concerned about the visual impact of the proposed widening as the road crosses the face of Leavenworth Mountain. The report states: "No direct impacts to the GSPNHLD have been identified for any of the build alternatives or realignment options under consideration. However, since Leavenworth Mountain is the backdrop to the historic setting of the GSPNHLD, any improvement of the switchbacks on the existing roadway may affect the visual quality and cultural landscape within the District. Although this impact is indirect, the City of Georgetown considers it to be adverse." (III-24) We agree with the town. The proposed improvements will create large stretches of retaining walls that will change the visual character of the landmark district. In addition, the report does not address the impact to the historic structures along Rose Street. If the road is widened to 24', it will have to funnel into an 18' road at the corner of 2nd and Rose streets. These next four blocks contain some of the town's oldest frame structures, many of which were constructed with no setback. For example, Rose Street between 2nd and 3rd

P.O. Box 667 • Georgetown, Colorado 80444 • (303) 569-2840 • FAX (303) 569-2111  
Email: [preservation@historicgeorgetown.org](mailto:preservation@historicgeorgetown.org) • Web: [www.historicgeorgetown.org](http://www.historicgeorgetown.org)

October 12, 1999  
Mr. Richard Cushing, FHWA  
Page two

streets has houses on the east with a 5-7' setback and on the west with a 2-3' setback. Certainly the construction of a wider road down the face of the mountain may place these structures in jeopardy. The fact that the road has been engineered for larger vehicles may also create problems once traffic is in town. Currently, larger vehicles must drive up onto the sidewalks at 6th & Rose in order to navigate the 90-degree turn. If traffic will be routed down Rose Street to 11th, then the impact of the noise, pollution and other factors on these historic homes should also be addressed.

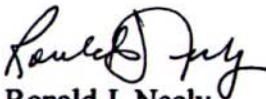
If the decision is made to route the traffic over to Loop drive, then the visual impact on the high bridge of the Georgetown Loop Railroad needs to be carefully reviewed. The proposed bridge design seems excessive. Furthermore, no mention is made of the proposed traffic route after the bridge to Loop Drive. The road is wide enough to handle the first quarter mile of traffic to the north, but then the road splits with one branch headed to 6th street and the other to Brownell. Neither road is wide enough to handle the proposed traffic. The town is certainly not in a position to absorb the cost of widening or re-design of this section of road.

Our original request was that the impact and design of the road be reviewed all the way to the I-70 interchange. We would like to reiterate that position, in that we believe that the impact of any improvements to the road will be major, and will continue all the way to I-70.

We hope you will consider these items as you review the DEIS. We would be willing to meet with you at any time to further discuss these issues. We were somewhat surprised to read that "The FHWA has and will continue to work closely with . . . Historic Georgetown, Inc. . . ." (III-105). We have received the mailings and many of our members have attended the meetings, but the contact with the organization has been limited to two or three short discussions over the period of the study.

Thank you for your time and consideration.

Very truly yours,

  
Ronald J. Neely  
President

cc: Town of Georgetown, State Historic Preservation Officer, Clear Creek County

P.O. Box 667 • Georgetown, Colorado 80444 • (303) 569-2840 • FAX (303) 569-2111  
Email: [preservation@historicgeorgetown.org](mailto:preservation@historicgeorgetown.org) • Web: [www.historicgeorgetown.org](http://www.historicgeorgetown.org)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8  
999 18<sup>TH</sup> STREET - SUITE 500  
DENVER, CO 80202-2466  
<http://www.epa.gov/region08>

676

October 7, 1999

Ref: 8EPR-EP

Mr. Richard Cushing  
Federal Highway Administration  
Central Federal Lands Highway Administration  
555 Zang Street, Mail Room 259  
Lakewood, CO 80228

Re: Guanella Pass Road, Colorado Forest Hwy. 80  
DEIS Review - 990231

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 *Draft Environmental Impact Statement (DEIS) for the Colorado Forest Highway 80, Guanella Pass Road*, dated June 1999. Highway 80 runs from US 285 in Grant to Interstate 70 (I-70) in Georgetown, Colorado. Guanella Pass Road is a scenic mountain pass located primarily in National Forest Service lands and reaches altitudes of 11,669 feet.

We offer the enclosed comments for your consideration as you complete the Final Environmental Impact Statement (FEIS). For this project, EPA has concerns regarding the sensitive ecological nature of the alpine environment of the Guanella Pass area and the difficulties associated with protecting aquatic habitat from gravel road maintenance and ongoing erosion and sedimentation problems. We encourage the project proponents to thoroughly evaluate and implement the least damaging road improvement solution to protect the aquatic resources, including avoiding and minimizing fill in wetlands.

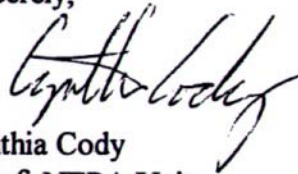
The primary concerns for EPA on this project are: 1) protecting the alpine environment, especially high altitude wetlands which are very expensive and difficult to mitigate; 2) maintaining and improving existing water quality by controlling sediment and reducing erosion; 3) integrating the requirements of the CWA 404 permit with the FEIS to protect wetlands, including additional mitigation and site specific alternatives to avoid wetlands; 4) identifying unique wetlands resources such as fens within the project corridor; and 5) ensuring that all adverse impacts are adequately mitigated and monitored. EPA is interested in participating in the wetlands portions of the FEIS and the CWA 404 permit, such as evaluating site specific alternatives to avoid wetlands.

We commend the FHWA for preparing an EIS that addresses many of our typical concerns found in reviewing highway projects. Water quality and aquatic habitat protection have already been considered in developing the alternatives for this EIS, such as limiting the width of the highway and reducing sediment and erosion problems. The EPA also appreciates the inclusion of federal, state, local government and private letters in the DEIS to inform the reader of other concerns and interests in the proposed action. We found this very helpful in providing the full spectrum of issues surrounding this project.

Based on the procedures EPA uses to evaluate the potential effects of proposed actions and the adequacy of the information in the DEIS, the Preferred Alternative identified by the DEIS for the Guanella Pass Road will be listed in the Federal Register in the category EC-2. This rating means that the review has identified environmental impacts that should be avoided in order to fully protect the environment, and the DEIS does not contain sufficient information to thoroughly assess environmental impacts that should be avoided to fully protect the environment. Enclosed is a summary of EPA's rating definitions.

We appreciate your interest in our comments. 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,



Cynthia Cody  
Chief, NEPA Unit  
Office of Ecosystems Protection  
and Remediation

Enclosures

cc: Tim Carey, COE, TriLakes Office  
Lee Carlson, USFWS, Lakewood  
Becky Vickers, CDOT, Denver



**EPA Region 8 – Specific Comments**  
**Guanella Pass (Colorado Forest Highway 80) DEIS**  
**October 7, 1999**

**Wetlands and CWA 404 Permit**

- ☆ 1. As discussed in the CEQ regulations and 40 Questions guidance, we strongly recommend that the information and alternatives analysis required by the 404(b)(1) guidelines and the Section 404 Clean Water Act (CWA) permit be incorporated into the FEIS. Based on the information in the DEIS, we anticipate additional wetlands information collection (fen mapping) and further site specific alternatives development where the road impacts waters of the U.S., including wetlands. The site specific alternatives will be used to determine the *least damaging practicable alternative* as required under the 404 permit. There is not enough information in the DEIS to determine if the *least damaging practicable alternative* has been developed.

By incorporating the objectives of section 404 CWA into the EIS process, the government can avoid having to revise decisions or collect additional information for the 404 permit. For example when EISs are completed independently or prior to obtaining a CWA 404 permit, an agency may decide to authorize road widening in certain reaches in waters of the U.S. (including wetlands); yet the 404 permit process may identify surfacing of the current road bed or no action as the *least damaging practicable alternative*. Therefore, we recommend that the road improvement alternatives and 404 permits be processed concurrently so that one decision does not preclude or artificially limit *practicable* alternatives to be considered under the 404 permit requirements. Moreover, significant wetland concerns may arise during the permit review process and potentially result in the Corps of Engineers requiring additional NEPA analysis. We believe it is in the best interest of all the parties to include 404(b)(1) Guidelines alternatives analysis in one NEPA document to prevent unnecessary time delays and duplicating environmental analysis.

2. *Practicable alternatives* are defined in the CWA Section 404(b)(1) Guidelines as alternatives that are available and capable of being done after taking into consideration cost, existing technologies, and logistics in light of the overall project purposes. *Practicable alternatives* are more rigorously defined than feasible alternatives (as stated at page III-36) or reasonable alternatives under NEPA.

In accordance with the 404(b)(1) Guidelines, the *least damaging practicable alternative* must be thoroughly evaluated on a site specific basis where discharges into waters of the U.S. (which includes wetlands) are proposed and a 404 permit is required. The *practicable alternative* analysis will need to consider considering the primary purpose of the road improvement of (i.e., the basic project purpose) whether it is safety, erosion control, sight distance, etc.

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☆ Higher Priority Comments

3. It is our understanding that fens, or peatlands, are present within the project corridor and may be affected by the road improvement project. Should fen-type wetlands exist within the corridor and have proposed road improvement projects as potential impacts, we believe mapping of those locations should be included in the FEIS. We do not know if adequate information documenting the location of fens in the area already exists, but we must request that fens containing *histisols* be mapped prior to any CWA 404 permit application and the FEIS.

Fen-type wetlands have recently been designated by Region 6 of the Fish and Wildlife Service (USFWS) as Resource Category 1 with respect to the USFWS Mitigation Policy.<sup>1</sup> The mitigation goal of Resource Category 1 is *no loss of existing habitat value* and makes the protection of fens a priority during Section 404 permit reviews.

Fens are wetlands that have primarily organic soil material (i.e., peats or muck) and are created over long time periods in ground water driven, saturated conditions. Because the rate of plant growth exceeds that of decomposition, organic soils form very slowly by accumulation of plant debris. Fens in the Rocky Mountains are believed to develop or accumulate at rates ranging from 4.3 to 16.2 inches per thousand years. In Colorado, the Corps of Engineers has revoked the use of Nationwide Permit #26 in fens containing histisols to better protect this unique wetland type.

Accordingly, we believe these wetland ecosystems are for all practical purposes non-renewable and irreplaceable. Mitigation for these wetlands types is highly problematic. Therefore, in accordance with the goal of no overall net loss of the nation's remaining wetlands base for the Section 404 regulatory program, we believe these unique aquatic resources are of critical ecological importance and should receive the highest regulatory scrutiny during permit review.

### Water Quality

4. We recommend that an alternative be selected which limits road width and corrects the existing erosion and revegetation problems as a priority over an alternative that provides greater accessibility and more traffic volumes. Some additional information is needed to determine the relative environmental impacts of the different alternatives. For example, if paving allows the road to be kept open during most the winter, the impacts to wildlife and water quality from year round traffic and deicing could offset any erosion control improvements from paving. The information from the site specific wetlands alternatives analyses also needs to be evaluated in conjunction with the five overall alternatives.

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<sup>1</sup> Peatland Mitigation Policy Considerations, U.S. Fish and Wildlife Service, Region 6, January, 1998

5. In many areas of the Guanella Pass road, it will be very difficult to successfully control erosion and revegetate the disturbed area. The FEIS should explain how erosion control and revegetation success will be monitored, and which government agency(s) will be responsible for repairing unsuccessful erosion control and revegetation efforts.
6. Are there plans for controlling runoff from the larger parking lots such as detention ponds, man-made wetlands for treating runoff, or sedimentation ponds? Are there plans to restore existing deposited sediment plums in wetlands and riparian areas (discussed at page III-31 and 32)?
7. Much of the area around Georgetown is heavily mineralized with extensive historic mining. The FEIS should disclose if the road cuts or tunnel in the mineralized area will disturb any formations, fractures, and/or historic mine workings which are likely to generate acid rock drainage or connect to poor quality water, thereby releasing heavy metals into Clear Creek. Excavating rocks containing pyrite or other sulfide minerals causes the material to begin oxidizing, thereby generating acid and eventually releasing heavy metals such as zinc, manganese, and cadmium into the environment.

### **Other Comments**

8. The FEIS should explain the decisions that will be based on the EIS and who are the decision makers.
9. The FEIS should disclose more information on road closures and maintenance requirements during the winter (see page III-7). How often is the pass closed during an average winter and how much maintenance time and costs are associated with keeping the road (fully or partially) open during the winter months? If the road is paved, do the counties anticipate keeping the road open more during winter? More information is needed for the public to understand whether it is of critical importance to make the proposed road improvements for continual winter use or whether expected winter closures and associated costs with keeping the road open may reduce the need for such proposed road improvements.
10. The FEIS should disclose the amount of sand mixture, magnesium chloride or other deicer traction products typically used during an average winter season and how will usage change with the different alternatives (page III-32). What, if any, adverse impacts are occurring with the use of magnesium chloride in the alpine environment? We believe this information is important in disclosing baseline costs and environmental impacts associated with existing winter maintenance and comparing it with future condition winter maintenance requirements and costs.
11. More information should be provided in the FEIS that discloses private land ownership along the corridor and potential reasonably foreseeable development that may occur, if any, due to the proposed alternatives. It has been our experience that upgrading the surface may spur additional private land development that would not have occurred without the project. Therefore, we believe potential cumulative adverse environmental impacts from this

development should be evaluated and disclosed. (See Page III-16: Land Use and Consistency with Local Plans)

12. The FEIS should more fully describe the magnitude of impacts on wildlife. On page III-73, this area is identified as an important winter habitat for ptarmigan and anticipated impacts are discussed on page III-75. Similarly, adverse impacts are anticipated for big horn sheep (pp. III-72 and III-75). Depending on the magnitude of impacts, interpretive signs may not be sufficient mitigation. Are additional operational alternatives or more mitigation needed such as closing the road in the winter to protect the ptarmigan? The mitigation proposed on the bottom of page IV -7 "Enforcing specific measures to address indirect project impacts on wintering ptarmigan," should be expanded to list the specific practices or controls that will be implemented.
13. From discussion at the public meeting with the Forest Service, it appears that the Forest Service may have already implemented some measures to improve overuse problems along the Guanella Pass road. The FEIS should provide an update of each Forest's activities in the area of Guanella Pass (since the DEIS was drafted) and provide the status of future plans.

P.O. Box 220  
Fairplay, CO 80440  
(719) 836-4201 (phone)  
(719) 836-4204 (fax)  
(303) 205-4201 (Metro)

# COUNTY OF PARK

## BOARD OF COMMISSIONERS



September 7, 1999

Representative Mark Udall  
128 Cannon House Office Building  
Washington, D.C. 20515

Dear Representative Udall:

This letter is written in reference to your letter to FHWA Administrator Kenneth Wykle dated August 17, 1999 and THE DENVER POST article by Jim Hughes dated Wednesday, August 25, 1999 entitled "Hearing Added on Improving Guanella Pass". You are quoted as being against FHWA "managed open houses"; you further propose "two, full audience-style hearings". My recent experience with both forms of meeting causes me to be "disinclined to share that view". I had previously attended the "managed open houses" in both Lakewood and Shawnee. The extensive one-on-one discussions with multiple FHWA officials (each with their own area of expertise) and many individual citizens (many who left comments with a court recorder) were most thought provoking.

As Park County Commissioner Chair, I tried to facilitate the meeting in Bailey, Colorado on August 25, 1999. The Idaho Springs (that I also attended) and Bailey audience-style meetings did **not** introduce any new ideas or establish any consensus that were not previously offered via written mailed comments or in "managed" open house sessions. The traditional public-hearing style (or "*unmanaged*" with the potential for a circus atmosphere - italics mine) where people gave testimony (*testimony* is questioned) was just an opportunity for a few persons to reiterate narrow individual views to a captive audience. For example; in Bailey twenty - six (26) individuals requested an opportunity to speak; nine (9) were from one family, including their hired hands, (all preached the same party line); four (4) were from outside Park County; four (4) were from rural Park County; and nine (9) from the Platte Canyon Park County area. Approximately one hundred twenty (120) people attended, so about 20% spoke or less than 2/10 of 1% of the total Park County population. The suggestions ranged from "close the pass" to "do nothing" to "fully reconstruct and pave the entire road". A frequent reference was to the "Sierra Club Alternative". That alternative as presented is strictly verbal, no design or cost analysis. Sierra Club members have been requested to compare their "Vision" to the FHWA Alternative 5 concerning the 10.5 mile road in Park County. No consensus was proposed or achieved thus far.

Members of the Gordon family, Tumbling River Ranch (TRR), and their supporters provided the entertainment, which included intimidation, exaggeration and half-truths. Their verbal accusations were pre-set by the prior erroneous data in their paid newspaper advertisements (see enclosure August 20, 1999 Fairplay Flume). Also, see the one-sided "push-pull" survey, questionnaire/petitions. Their comments and their supporters referenced only to the "NO PAVING - Do Nothing" i.e., Alternative 1 vs. 2 (Note: in Park County 60% of the 10.5 mile road is currently paved, however in poor condition). No consideration or discussion occurred relative to the other 3 Alternatives even though they were introduced as possible alternatives by some Commissioners and FHWA representatives. We were

ignored by the influential few. Is that productive? Little was gained in the form of contribution to decision making. No dialog to seek consensus, only limited self-serving emotional single view statements. The apparent attitude of the "TRR Gang" is to keep the forest access to themselves and to their \$1700 per week individual guests. Those weekly guests damage the forest trails, for example; take a hike along Smelter Creek and 3 Mile Creek trails and see for yourself, dodge the concentration of manure, odor and deeply worn tracks. Also, follow the 30' + horse trailer, plus tow truck up the Fall Hill switchbacks to the staging area. (Note: TRR pays an annual trails permit of \$3800.00 to the United States Forest Service – or less than \$6.00 per guest, per week; less than the typical \$7.00 a night fee collected from an "average Joe and family" to camp at the USFS campsite near the resort dude ranch). During the 4 summer/fall months, the TRR staff travel to work; guest autos or resort transport; plus suppliers of food, laundry, fuel and waste hauling are a primary, major source of the daily traffic on Park County Road 62 (Guanella Pass Road). In addition, there are visiting recreational enthusiasts from all over our nation who wish to view and experience the Scenic and Historic Byway access to the National Forest - owned by all United States citizens.

Previous meetings, DEIS Review, one-on-one discussions (with interested, informed individuals from across the spectrum) and review of other printed material helped me gain understanding to a far greater extent than did the "traditional auditorium style hearing". In fact, the adversarial posturing tends to solidify contrary positions rather than add to mutual comprehension toward achieving a reasonable agreement. I plan to make an informed decision for the whole of Park County taxpayers that is based on logic and positive input rather than emotional and selfish interest.

Please advise on how you know that confrontational positioning by limited input in the "traditional auditorium-style public hearing" as experienced and described above is a superior form of hearing.

Thank you for your time and anticipated response.



CJ DeLange  
Park County Commissioner, District 1



Enclosures

CC: Representative Scott McInnis  
Senator Wayne Allard  
Senator Ben Nighthorse Campbell  
State Senator Ken Chlouber  
State Representative Carl Miller  
Kenneth Wykle, FHWA  
Richard Cusing, FHWA  
Clear Creek County Commissioners  
Park County Commissioners  
Fairplay Flume

To: Residents and Taxpayers of Park County

The Guanella Pass Road's future has bred significant controversy. The road opened in the 50's has become a focal point for year 2000. Should it be closed, do nothing or fully reconstructed and paved; or something in between? Do you understand the other options and do you have a preferred alternative position?

The "no growth" crowd plus the private dude ranch and their employees apparently want very limited access to the National Forest via vehicular travel on Guanella Pass road. They must want to reserve the Pike NF for their own private use along with their wealthy out of state guests and/or active hikers only. Their arguments have discounted any consideration or discussion of the other three FHWA alternatives.

The average Park County, Colorado, and US citizen could be denied 2 wheel drive access to this wilderness area if all the FHWA options are denied. Guanella Pass in Park County may revert to total closure or 4 WD only - without planned investment and improvements.

My position is to do what is best for the whole of Park County. I have stated my personal preference is to rehabilitate as Alternative 5 with some additional modifications to further improve drainage. I have been maligned and vilified for not joining the dude ranch folks and say "no paving". How many understand that 60% of the present road in Park County is paved now? Why not rehabilitate the 10.5 miles in Park County? The DEIS has been extended to 15 October, 1999. You can still make your position known. The final EIS and final decision will extend well into 2000.

The "no growth, limited travel into Park County" proponents have had the dominant voice thus far with their erroneous paid ads and questionnaires. If that truly represents the overall majority, that's OK with me. I just want to say I am disappointed to see the county dictated to and accept the intimidation, false statements, half-truths and influence of wealth.

The unplanned dam being built to stop Park County growth at every turn by the coalition of wealth and misguided environmentalists will eventually burst and cause even more undesirable flooding.

The Guanella family will lose and not "save" the pass as is their stated desire. The Park County budget will be able to discontinue the minimal maintenance and will lose any Federal support to rehabilitate the road. I question if that is the best position for the whole of Park County. However, if that is the predominant wish as indicated by the silence of the rest --so be it. Park County may gain or lose, only the future will confirm.

Maybe total road closure with a large parking lot at the base of Falls Hill would be the best solution. I would miss the beauty of traveling over Guanella Pass, but then I can use other mountain passes to access hiking and off-road 4 wheeling to obtain my own personal wilderness experience.

CJ De Lange, District 1 County Commissioner



U.S. Department  
of Transportation

**Federal Highway  
Administration**

Central Federal Lands  
Highway Division

555 Zang Street, Room 259  
Lakewood, CO 80228

AUG 26 1999

In Reply Refer To:  
HPD-16

Agencies, Organizations, and Citizens:

As requested, enclosed is a copy(s) of the Draft Environmental Impact Statement (DEIS) for a proposed improvement of Colorado Forest Highway 80, Guanella Pass Road. Copies of the technical reports are available for review at the following locations:

Arapaho National Forest, 240 West Prospect Street, Fort Collins, CO  
Arapaho National Forest, 101 Chicago Creek, Idaho Springs, CO  
Federal Highway Administration, 555 Zang Street, 3rd Floor, Environment, Lakewood, CO  
Tomay Memorial Library, 605 6th Street, Georgetown, CO  
Clear Creek County, 405 Argentine Street, Georgetown, CO  
Denver Public Library, 10 West 14th Avenue, Denver, CO  
Pike National Forest, 1920 Valley Drive, Pueblo, CO  
Pike National Forest, 19316 Goddard Ranch Court, Morrison, CO  
US Forest Service, Region 2, 740 Simms Street, Golden, CO  
Park County Library, 418 Main Street, Fairplay, CO  
Park County Library, 350 Bulldogger Road, Bailey, CO  
Park County Clerk and Recorder, 501 Main Street, Fairplay CO

The DEIS is also available at the above locations and at [www.cflhd.gov/projects/co/guanella](http://www.cflhd.gov/projects/co/guanella).

We invite all interested persons to attend the hearings. Comments may also be sent to: Federal Highway Administration, 555 Zang Street (Room 259), Lakewood, CO 80228, Attention: Environment. Comments received by October 15, 1999, will become a part of the official public hearing record.

Sincerely yours,

James W. Keeley, P.E.  
Project Development Engineer

Enclosure(s)





U.S. Department  
of Transportation  
**Federal Highway  
Administration**

Central Federal Lands  
Highway Division

555 Zang Street, Room 259  
Lakewood, CO 80228

**AUG 24 1999**  
In Reply Refer To:  
HPD-16

U.S. EPA, Office of Federal Activities  
NEPA Compliance Div., EIS Filing Section  
Ariel Rios Bldg. (South Oval Lobby)  
Mail Code 2252-A, Room 7241  
1200 Pennsylvania Ave., NW  
Washington, DC 20044

Dear Sir:

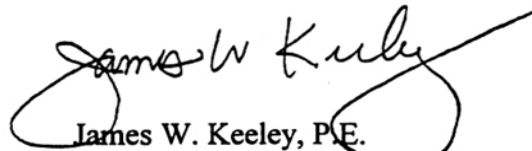
This letter is to re-state the information provided in our fax of August 23. We would like you to publish a notice in the Federal Register extending the comment period for a Draft Environmental Impact Statement (DEIS). The DEIS was prepared by the Federal Highway Administration (FHWA) for a proposed improvement on Colorado Forest Highway 80, Guanella Pass Road. The official comment period was from July 16, 1999 until August 30, 1999. Due to requests from government agencies and the public, the official comment period is extended until October 15, 1999.

The original Federal Register notice read:

EIS No. 990231, Draft EIS, FHW [sic], CO, Colorado Forest Highway 80, Guanell [sic] Pass Road (also known as Park County Road 62/Clear Creek County Road 381/Forest Development Road 118) from US 285 in Grant to Georgetown. Improvements, Funding and COE Section 404, NPDES and Special Use Permits Issuance, Park and Clear Creek Counties, CO, Due: August 30, 1999, Contact: Richard Cushing (303) 716-2138.

If you have any questions, please contact Mr. Robert Nestel, Environmental Biologist, at 303-716-2142 or write to the above address, Attention: HPD-16.5, Environment.

Sincerely yours,

  
James W. Keeley, P.E.  
Project Development Engineer

bc: R. Nestel *RN*  
M. Taylor  
R. Cushing

yc: reading file

Central File: CO FH 080, Guanella Pass Road

RNestel:rn:jm:8/24/99:L:\ENVIRONM\WP\CO080\EXTEND.TIM



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

Central Federal Lands  
Highway Division

555 Zang Street, Room 259  
Lakewood, CO 80228

**AUG 24 1999**  
In Reply Refer To:  
HPD-16

Agencies, Organizations, Citizens:

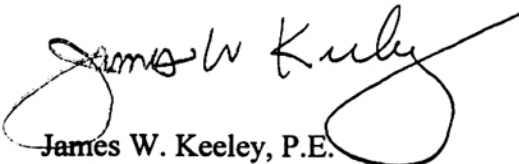
A Draft Environmental Impact Statement (DEIS) for a proposed improvement of Colorado Forest Highway 80, Guanella Pass Road, was circulated by the Federal Highway Administration (FHWA) on July 16, 1999. The end of the official comment period was August 30, 1999. Due to agency and public requests, the FHWA is extending the official comment period on the DEIS until October 15, 1999. Copies of the Guanella Pass DEIS (and technical reports) are available for review at the following locations:

Arapaho National Forest, 240 West Prospect Street, Fort Collins, CO  
Arapaho National Forest, 101 Chicago Creek, Idaho Springs, CO  
Federal Highway Administration, Environment Office, 555 Zang Street, Lakewood, CO  
Tomay Memorial Library, 605 6th Street, Georgetown, CO  
Clear Creek County, 405 Argentine Street, Georgetown, CO  
Denver Public Library, 10 West 14th Avenue, Denver, CO  
Pike National Forest, 1920 Valley Drive, Pueblo, CO  
Pike National Forest, 19316 Goddard Ranch Court, Morrison, CO  
US Forest Service, Region 2, 740 Simms Street, Golden, CO  
Park County Library, 418 Main Street, Fairplay, CO  
Park County Library, 350 Bulldogger Road, Bailey, CO  
Park County Clerk and Recorder, 501 Main Street, Fairplay CO

The DEIS is also available at: [www.cflhd.gov/projects/co/guanella](http://www.cflhd.gov/projects/co/guanella)

Comments should be sent to Mr. Richard Cushing, Environmental Planning Engineer, Federal Highway Administration, 555 Zang Street, Room 259, Lakewood, CO 80228. For further information, you may contact Mr. Cushing at 303-716-2138.

Sincerely yours,

  
James W. Keeley, P.E.  
Project Development Engineer

bc: R. Nestel *RN*

yc: reading file

Central File - CO FH 080, Guanella Pass Road

RNestel:rn:jm:8/24/99:L:\ENVIRONM\WP\CO080\EXT.PUB



# Clear Creek County

POST OFFICE BOX 2000  
GEORGETOWN, COLORADO 80444

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

August 23, 1999

Larry Smith, Division Engineer  
Federal Highway Administration  
Central Federal Lands Highway Division  
555 Zang Street  
Lakewood, CO 80228

Dear Mr. Smith:

After a public hearing held last Friday, August 20<sup>th</sup>, at which we received much local input regarding the Guanella Pass Improvement project, we are respectfully requesting an extension of the deadline for the comment period for the DEIS.

The general consensus was that a citizens' committee needs to be formed to make a formal recommendation to the Board of Commissioners as to what the residents of Clear Creek County would like to see happen on Guanella Pass. We believe an agreement can be reached through this process and any large, important project such as this is much more successful if it has the support of the majority of the local residents who will be impacted.

We are asking for an extension to October 1, 1999. In this time, we believe we can come up with an alternative that works for most of those involved.

Sincerely,

CLEAR CREEK BOARD OF COUNTY COMMISSIONERS

Robert J. Poirot, Chairman

Jo Ann Sorensen, Commissioner

Fabyan Watrous, Commissioner



# United States Department of the Interior

OFFICE OF THE SECRETARY  
WASHINGTON, D.C. 20240

ER-99/603

AUG 19 1999

Mr. James Daves  
Division Administrator  
Federal Highway Administration  
555 Zang Street, Room 250  
Lakewood, Colorado 80228-1097

Dear Mr. Daves:

This is in response to the request for the Department of the Interior comments on the Draft Environmental Impact Statement/Section 4(f) Evaluation for Colorado Forest Highway 80. Guanella Pass Road (AKA Park County Road 62, Clear Creek County Road 381, and Forest Development Road 118), Grant to Georgetown, Park and Clear Creek Counties, Colorado.

## Section 4(f) Evaluation Comments

We concur that there is no prudent and feasible alternative to the proposed project, if project objectives are to be met. However, we do not believe that all possible planning has been done to minimize harm to Section 4(f) resources.

### Historic Resources

The *Affected Environment and Environmental Consequences* section of the document and several letters in *Appendix A: Correspondence* suggest that there is disagreement among the Federal Highway Administration; the Colorado Historical Society - office of the Colorado State Historic Preservation Officer (SHPO); the Town of Georgetown; and Historic Georgetown, Inc. regarding either the eligibility of Guanella Pass Road for listing in the National Register of Historic Places or the possible range of effects of the proposed project on historic properties. We are pleased at the cooperation and coordination among these agencies and organizations to date, and recommend that the agencies and organizations continue to work closely together to satisfactorily resolve any remaining issues.

Each of the proposed action alternatives would affect two mine tailing sites, both of which are contributing elements of the Georgetown-Silver Plume National Historic Landmark District. In addition, two of the four realignment options - Georgetown Side-Hill Bypass and Georgetown Tunnel Bypass - would affect remnants of the Farwell Reduction Works Smelter, which is a contributing element of the national historic landmark district, as well as the Colorado Central Railroad Grade, which is eligible to be listed in the National Register of Historic Places. Therefore, we recommend continued cooperation and coordination with the State Historic Preservation Officer in order to develop a Memorandum of Agreement (MOA) which should include measures to avoid and/or minimize harm to historic properties, in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended. A signed copy of the MOA should be included in a Final Section 4(f) Evaluation, which should be made part of the final documentation.

Park and Recreation Resources

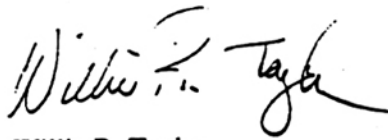
We recommend continued cooperation and coordination with the Forest Service in order to reach an agreement concerning project impacts and mitigation measures to park and recreation resources which may be affected by the proposed project. Evidence to that effect should be included in the Final Section 4(f) Evaluation.

**Summary Comments**

The Department of the Interior has no objection to Section 4 (f) approval of this project by the Department of Transportation, providing that all measures to minimize harm to Section 4(f) resources are included in final project plans, and documentation to that effect is included in the Final Section 4(f) Evaluation.

We appreciate the opportunity to provide these comments.

Sincerely,

A handwritten signature in black ink, appearing to read "Willie R. Taylor". The signature is written in a cursive style with a large, sweeping flourish at the end.

Willie R. Taylor  
Director, Office of Environmental  
Policy and Compliance

cc:

Mr. John Unbewust  
Regional Director  
Colorado State Department of Transportation  
1800 East Colfax Avenue  
Aurora, Colorado 80011

MARK UDALL  
2ND DISTRICT, COLORADO

128 CANNON HOB  
WASHINGTON, D.C. 20515  
(202) 225-2161  
(202) 226-7840 (FAX)

1333 WEST 120TH AVENUE  
SUITE 210  
WESTMINSTER, CO 80234  
(303) 467-4600  
(303) 467-4604 (FAX)



**Congress of the United States**  
**House of Representatives**  
**Washington, DC 20515-0602**

COMMITTEE ON RESOURCES  
SUBCOMMITTEE ON NATIONAL PARKS  
AND PUBLIC LANDS  
SUBCOMMITTEE ON FORESTS  
AND FOREST HEALTH

COMMITTEE ON SCIENCE  
SUBCOMMITTEE ON SPACE  
AND AERONAUTICS  
SUBCOMMITTEE ON TECHNOLOGY

August 17, 1999

Kenneth Wykle  
Administrator  
Federal Highway Administration  
400 Seventh Street, S.W.  
Washington, D.C. 20590

Dear Administrator Wykle:

I am writing to follow-up on our phone conversation regarding the Federal Highway Administration's (FHWA) process for public involvement regarding proposed improvements to the Guanella Pass road in Colorado.

Since our conversation, in which I requested the FHWA to conduct an audience-style public hearing on this project, my staff has been in contact with regional officials of the FHWA. These officials have again reiterated that they do not intend to convene public hearings of that type on this issue of significant concern to the communities which surround and enjoy this scenic mountain pass.

I am very disappointed with your agency's handling of this request. I find it very disturbing that any federal agency sees fit to ignore the specific and very reasonable pleas of citizens for a full-fledged public hearing on a major project of such importance to the affected communities.

I understand that the FHWA's involvement with this project has been protracted. However, the release of the Draft Environmental Impact Statement (DEIS), which includes alternatives that could dramatically alter this road and its surrounding environment, has prompted expressions of concern from many of my constituents. They also have a number of complaints about the way FHWA has sought to learn about their concerns. Specifically, these citizens have been unsatisfied with the exclusive use by the FHWA of the "open house" method of gathering input. These "open houses" do not afford people the opportunity to hear the questions and concerns raised nor the responses provided by federal officials involved in this project. They've made it clear that they consider the agency's selective use of "open houses" to be nothing more than an attempt to avoid scrutiny while giving lip service to the idea of public input.

I have been disinclined to share that view. However, this is the first time that I have encountered a federal agency that believes that managed "open houses" are sufficient for public input. These "open houses" may be adequate in other circumstances but not with a project of this scale and

Kenneth Wykle  
August 17, 1999  
Page 2

concern. Holding to this style of input, in the face of public concern, will only increase public discontent and frankly reflects poorly on this agency and this administration.

Accordingly, I again strongly urge the FHWA to conduct at least one, and preferably two, full audience-style public hearings on this issue. In order to facilitate such hearings, I urge that the public comment period on the DEIS be extended for an additional 30 days beyond its presently scheduled end date of August 30, 1999.

Furthermore, I want you to know that the reaction from the regional FHWA officials has baffled me. Their unwillingness to accommodate the wishes of the affected communities of this project is inappropriate for a federal agency responsible for a project of this magnitude. It prompts serious questions about the way the FHWA is implementing the overall Federal Lands Program under which this Guanella Pass project is funded. As you know, that program is designed to fund improvements on roads over federal lands such as those managed by the Forest Service, the Bureau of Land Management and the National Park Service. While this is an important program, given the reaction I have encountered from the FHWA about the Guanella Pass project, I wonder if the program is being implemented in a way that affords proper attention to public opinion.

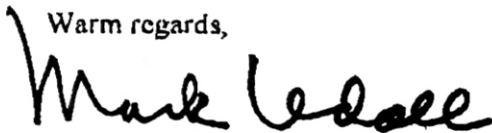
Therefore, in addition to my requests for public hearings and an extension for the public comment period on the DEIS, I am also requesting information about the status of the Federal Lands Program in Colorado.

Considering the extent of needed improvements to roads throughout Colorado, it is critically important that we apply scarce resources only to truly high-priority projects that will address the most pressing needs. I think many would find it unacceptable if at the same time Coloradans are considering whether the State should issue bonds to finance needed highway construction, federal dollars were being expended to make major changes to roads that may need only minor improvements. The Guanella Pass road, for instance, is primarily a forest access recreational road. I am concerned that extensive improvements may turn this road into a commuter roadway, which may not be appropriate for this region.

To enable me to determine if these funds are effectively managed, please inform me regarding the amount of funding currently available under this program for projects in Colorado, what other projects in Colorado are being considered for this program, and how the FHWS will make its decisions about the use of these funds in Colorado.

Thank you for your attention to these requests. I await your prompt response.

Warm regards,



Mark Udall  
Member of Congress



U.S. Department  
of Transportation

**Federal Highway  
Administration**

Central Federal Lands  
Highway Division

555 Zang Street, Room 259  
Lakewood, CO 80228

**AUG 16 1999**

In Reply Refer To:  
HPD-16

The Honorable Mark Udall  
Congress of the United States  
House of Representatives  
1333 West 120th Avenue, Suite 210  
Westminster, CO 80234

Dear Representative Udall:

Subject: Response to Letter of July 29 on Guanella Pass Road, Colorado Forest Highway 80

Thank you for your letter dated July 29, concerning the open-house type format for our Public Hearings on the subject proposed project. We want to assure you that the Federal Highway Administration (FHWA), Central Federal Lands Highway Division, considers public involvement on our projects to be a very important part of the environmental analysis process. Below is a summary of the public involvement that has occurred on this project to date:

January 19, 1994	Public Scoping meeting in Shawnee.
January 20, 1994	Public Scoping meeting in Georgetown.
January 25, 1995	Public design workshop in Georgetown.
March 23, 1995	Public informational open house in Shawnee.
July 10, 1996	Public informational open house in Shawnee.
July 11, 1996	Public informational open house in Georgetown.
July 7, 1999	Public notification of DEIS availability and Public Hearings.
August 4, 5, 6, 1999	Public Hearing (open house) in Lakewood, Shawnee, and Georgetown, respectively.

In your letter you suggest that in addition to the open-house events already scheduled, we consider holding additional hearings "...in the traditional format of having officials present information, take questions from, and provide responses for the benefit of all members of the audience." While the traditional format may have some advantages, we have found that many people are intimidated by the microphones and audience. We believe that we obtain more meaningful and diverse participation using the open-house public hearing format which enhances communication between the public and the agency by providing ample time for people to review the many displays of information available and communicate one-on-one with the staff from all the agencies involved in the project.




To give you an idea of the amount of information presented at the Guanella Pass hearings, we have enclosed the handout that was provided to each person as they entered the hearing room. As you can see from the handout there are numerous exhibits that are staffed by agency representatives. There is also a comment sheet for the public to provide us with input on the project, and we explain to them that they can either submit this to us before they leave or they can take the comment sheet home and mail it in so it can become part of the official public hearing record, or they can do both. We also have a court recorder available for those who want to make a formal statement to be included as part of the official public hearing record. We will also make available the transcript from each of the hearings to anyone requesting a copy.

As you suggested, two additional public meetings will be conducted. The Clear Creek County Commission will hold a public meeting in the traditional format on August 20, and the FHWA will have a representative participate to answer any questions or address any concerns on the proposed project. The Park County Commission will hold a similar meeting on August 25, and we will participate in a similar fashion. All transcribed notes from the counties meetings will become part of the official project record. We hope that by proceeding in this manner your concerns are addressed.

Your letter is addressed to Mr. James Daves, who is the Division Administrator for the Colorado Federal-Aid Division of the FHWA. Because this is a Federal Lands Highway project, it is administered by the Central Federal Lands Highway Division, rather than the Colorado Federal-Aid Division. Any further correspondence for this project should be sent to me at the above address. The address is similar except for the room number.

If you have any questions you may contact me at 303-716-2002 or Mr. Rick Cushing, Environmental Planning Engineer, at 303-716-2138.

Sincerely yours,

ORIGINAL SIGNED BY  
LARRY C. SMITH 

Larry C. Smith  
Division Engineer

Enclosure

cc (w/ copy of Representative Udall's letter):

Mr. Jim Daves, FHWA, HDA-CO, 555 Zang Street, Room 250, Lakewood, CO 80228

Mr. Rick Peters, Director, Park County Road and Bridge, PO Box 147, Fairplay, CO 80440

Mr. Berten R. Weaver, Planning Director, Clear Creek County, PO Box 2000, Georgetown, CO 80444

Mr. Jim Moe, Transportation Engineer, US Forest Service, Region 2, PO Box 25127, Lakewood, CO 80225-0127

Mr. Jim Cuthbertson, Clear Creek Ranger District, Arapaho National Forest, 101 Chicago Creek, PO Box 3307, Idaho Springs, CO 80452

Mr. Ron Klouzek, Forest Engineer, Pike & San Isabel National Forests, 1920 Valley Drive, Pueblo, CO 81008

Ms. Fabyan Watrous, Clear Creek County Commissioner, PO Box 2000, Georgetown, CO 80444

# The Town of Georgetown

P.O. Box 426  
Georgetown, Colorado 80444  
(303) 569-2555

Clear Creek County Commissioners  
Box 2000  
Georgetown, CO 80444

August 11, 1999

Dear Commissioners,

Following a review of the Federal Highway Administration (FHWA) Draft Environmental Impact Statement (DEIS) and a public meeting, the Board of Selectmen has unanimously adopted the following position for the Town of Georgetown on the Guanella Pass Road improvements.

The Board of Selectmen, Planning Commission and representative citizens favor the idea of safety, drainage, and maintenance improvements on the road, however, not at the level described in the Alternatives offered by the FHWA. All build alternatives offered by the FHWA are reconstruction alternatives. The Board of Selectmen urges the Clear Creek County Commissioners and the FHWA to consider a rehabilitation alternative, with minor widening of narrow sections, such as that proposed by the Sierra Club in combination with a no winter maintenance program to reduce maintenance costs. We prefer and would support a rehabilitation alternative, however, if a rehabilitation alternative is not available, the Board of Selectmen supports the no action alternative.

In reaching this conclusion the Board of Selectmen considered issues of grave concern to Georgetown including traffic, system linkage, visual, economic, cultural and construction impacts. The considerations include:

1. A de facto linkage of I 70 and 285 will be created and will result in a high speed pass through on Guanella Pass. "Where is the shortcut to 285?" is the most frequently asked question at the Visitor Center on congested days on I70.

2. The Georgetown street system and town finances can not sustain a 224% increase in Guanella Pass traffic or the impact of 7 - 10 years of heavy construction vehicles on our streets.

3. Georgetown and its citizens paid \$350,000 to keep the backdrop of the Historic District intact on Leavenworth Mountain. Georgetown should not be a willing seller of this property. Any alternatives suggested would widen the road, bell out the curves, create retaining walls and guard walls which would be visible throughout town and have an adverse impact on the National Historic Landmark District.

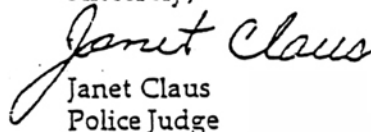
4. The economic analysis of more cars equals more dollars is true only if parking is available and only after the completion of construction.

5. Construction impacts on Georgetown have not been adequately assessed.

6. Cultural resources on Rose Street, on the Farwell Mill Site and on Loop Drive will be adversely affected with any Georgetown terminus.

The Board of Selectmen would suggest that changes to the road within the town limits of Georgetown is the prerogative of the Town of Georgetown.

Sincerely,

  
Janet Claus  
Police Judge

cc: Larry Smith, FHWA  
Richard Cushing, FHWA  
Jim Moe, USFS, Chief Engineer  
Mark Udall, US Representative  
Corey Wong, USFS Clear Creek Ranger District  
Jim Cuthbertson, USFS Clear Creek Ranger District



# United States Department of the Interior



## FISH AND WILDLIFE SERVICE

Ecological Services  
P.O. Box 25486 DFC  
Denver, Colorado 80225-0207  
Phone: (303) 275-2370 Fax: (303) 275-2371

IN REPLY REFER TO:  
ES/CO: Nonconcurrency Ltr  
Mail Stop 65412

AUG 10 1999

James W. Keeley  
U.S. Department of Transportation  
Federal Highway Administration  
555 Zang Street, Room 259  
Lakewood, Colorado 80228

Dear Mr. Keeley:

In response to your letter of May 03, 1999, the U.S. Fish and Wildlife Service (Service) is providing comments on your change concerning the effect on the lynx from the proposed reconstruction project on Guanella Pass Road. Based on future mitigation for expected impacts, you have concluded that the reconstruction of the GPR (Alternatives 2, 3, 4, and 5) will not likely adversely affect the lynx. The Service can not concur with that determination. While the mitigation may offset the impacts to lynx, the impacts would still occur. These comments have been prepared under the provisions of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et. seq.).

The decision whether to list lynx as a threatened or endangered species is due January 8, 2000. If the lynx is listed, we recommend that you initiate formal section 7 consultation with us at that time.

If the Service can be of further assistance, contact Clay Ronish of this office at (303) 275-2370.

Sincerely,

LeRoy W. Carlson  
Colorado Field Supervisor

cc: Reading file  
Project file

Reference: Clay\Species\nconcur.001

MARK UDALL  
2ND DISTRICT, COLORADO  
128 CANNON HOB  
WASHINGTON, D.C. 20515  
(202) 226-2181  
(202) 226-7840 (FAX)

1333 WEST 120TH AVENUE  
SUITE 210  
WESTMINSTER, CO 80234  
(303) 457-4500  
(303) 457-4504 (FAX)



**Congress of the United States**  
**House of Representatives**  
**Washington, DC 20515-0602**

COMMITTEE ON RESOURCES  
SUBCOMMITTEE ON NATIONAL PARKS  
AND PUBLIC LANDS  
SUBCOMMITTEE ON FORESTS  
AND FOREST HEALTH

COMMITTEE ON SCIENCE  
SUBCOMMITTEE ON SPACE  
AND AERONAUTICS  
SUBCOMMITTEE ON TECHNOLOGY

July 29, 1999

Mr. James Daves  
Federal Highway Administration  
U.S. Department of Transportation  
555 Zang Street, Room 250  
Lakewood, CO 80228

Dear Mr. Daves:

I am writing to express concerns about the Federal Highway Administration's process for gathering public input on the Draft Environmental Impact Statement (DEIS) recently released regarding improvements to the Guanella Pass Road.

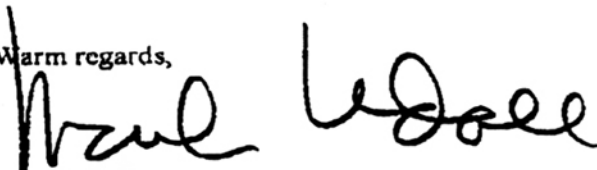
I understand that the FHA is planning a series of "open-houses" about the DEIS. These "open-houses" will allow those in attendance to view aspects of the proposal and the analyses used in coming up with the findings in the DEIS and to raise concerns with representatives of the FHA, the Forest Service, and the Colorado Department of Transportation.

Although this method of public involvement is indeed valuable, my understanding is that it will not provide the opportunity for all attendees to hear the questions and comments posed by their fellow citizens and the responses to these inquiries. I think it would be more educational for all attendees, and perhaps for the agencies as well, if all could hear both sides of this dialogue between officials and members of the public.

Accordingly, I suggest that in addition to the "open-house" events already scheduled and noticed in the newspapers, the FHA schedule one or two full public hearings on the DEIS in the surrounding communities before the end of the public comment period. These hearings should be in the traditional format of having officials present information, take questions from, and provide responses for the benefit of all members of the audience.

Because the proposed actions involving Guanella Pass are of significant importance to the neighboring communities, it is essential that the public be afforded every opportunity to have their views heard and considered. I know that you share this objective and appreciate your consideration of this request.

Warm regards,

  
Mark Udall  
Member of Congress

PRINTED ON RECYCLED PAPER



U.S. Department  
of Transportation

**Federal Highway  
Administration**

Central Federal Lands  
Highway Division

555 Zang Street, Room 259  
Lakewood, CO 80228

**JUL 07 1999**  
In Reply Refer To:  
HPD-16

Agencies, Organizations, and Citizens:

Enclosed is a copy(s) of the Draft Environmental Impact Statement (DEIS) for a proposed improvement of Colorado Forest Highway 80, Guanella Pass Road. Open-house format public hearings will be held to provide opportunities for citizens to learn more about the proposed improvement and to present oral and/or written comments. Displays will include visual simulations and maps of the project area. Representatives from the Federal Highway Administration, the Forest Service, and the Colorado Department of Transportation will be available to answer questions. A court recorder will be available to take formal comments for the public hearing record. The public hearings will be held at the following locations:

Wednesday, August 4, 1999, 5:00 - 8:00 p.m., Federal Highway Administration, 3rd Floor Conference Room A, 555 Zang Street, Lakewood, CO (off the frontage road southwest of 6th Ave. and Union Blvd.)

Thursday, August 5, 1999, 5:00 - 8:00 p.m., Shawnee Community Center, Shawnee, CO (a log building on the south side of US 285, six miles south of Bailey at the intersection with County Road 64.)

Friday, August 6, 1999, 5:00 - 8 p.m., Georgetown Community Center, Georgetown, CO (at the corner of 6th and Argentine Streets.)

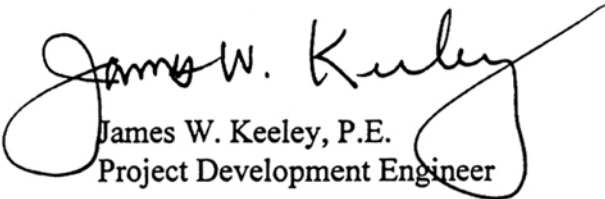
Copies of the technical reports are available for review at the following locations:

Arapaho National Forest, 240 West Prospect Street, Fort Collins, CO  
Arapaho National Forest, 101 Chicago Creek, Idaho Springs, CO  
Federal Highway Administration, 555 Zang Street, 3rd Floor, Environment, Lakewood, CO  
Tomay Memorial Library, 605 6th Street, Georgetown, CO  
Clear Creek County, 405 Argentine Street, Georgetown, CO  
Denver Public Library, 10 West 14th Avenue, Denver, CO  
Pike National Forest, 1920 Valley Drive, Pueblo, CO  
Pike National Forest, 19316 Goddard Ranch Court, Morrison, CO  
US Forest Service, Region 2, 740 Simms Street, Golden, CO  
Park County Library, 418 Main Street, Fairplay, CO  
Park County Library, 350 Bulldogger Road, Bailey, CO  
Park County Clerk and Recorder, 501 Main Street, Fairplay CO

The DEIS is also available at the above locations and at [www.cflhd.gov/projects/co/guanella](http://www.cflhd.gov/projects/co/guanella).

We invite all interested persons to attend the hearings. Comments may also be sent to: Federal Highway Administration, 555 Zang Street (Room 259), Lakewood, CO 80228, Attention: Environment. Comments received by August 30, 1999, will become a part of the official public hearing record.

Sincerely yours,



James W. Keeley, P.E.  
Project Development Engineer

Enclosure(s)



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

Central Federal Lands  
Highway Division

555 Zang Street, Room 259  
Lakewood, CO 80228

JUL 07 1999  
In Reply Refer To:  
HPD-16

US Environmental Protection Agency  
Office of Federal Activities  
NEPA Compliance Division  
EIS Filing Section  
Ariel Rios Building (South Oval Lobby)  
Mail Code 2252-A, Room 7241  
1200 Pennsylvania Avenue, NW  
Washington, DC 20044

In accordance with the EPA filing requirement for Environmental Impact Statements, we are enclosing five copies of the Draft Environmental Impact Statement (DEIS) for a proposed improvement of Colorado Forest Highway 80, Guanella Pass Road. The document is being transmitted to the EPA at the same time that it is being distributed to other agencies and the public. We expect publication in the Federal Register of a *Notice of Availability* for this DEIS on Friday, July 16, 1999. The end of the official comment period will be August 30, 1999.

Public hearings will be held at the following locations:

Wednesday, August 4, 1999, 5:00 - 8:00 p.m., Federal Highway Administration, 3rd Floor Conference Room A, 555 Zang Street, Lakewood, CO (off the frontage road southwest of 6th Ave. and Union Blvd.)

Thursday, August 5, 1999, 5:00 - 8:00 p.m., Shawnee Community Center, Shawnee, CO (a log building on the south side of US 285, six miles south of Bailey at the intersection with County Road 64.)

Friday, August 6, 1999, 5:00 - 8 p.m., Georgetown Community Center, Georgetown, CO (at the corner of 6th and Argentine Streets.)

Copies of the DEIS and technical reports are available for review at the following locations:

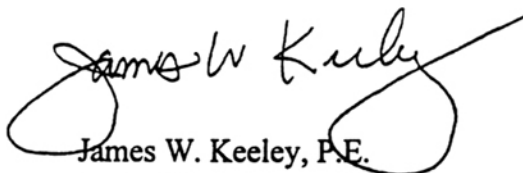
Arapaho National Forest, 240 West Prospect Street, Fort Collins, CO  
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Pike National Forest, 19316 Goddard Ranch Court, Morrison, CO

US Forest Service, Region 2, 740 Simms Street, Golden, CO  
Park County Library, 418 Main Street, Fairplay, CO  
Park County Library, 350 Bulldogger Road, Bailey, CO  
Park County Clerk and Recorder, 501 Main Street, Fairplay CO

The DEIS is also available at: [www.cflhd.gov/projects/co/guanella](http://www.cflhd.gov/projects/co/guanella).

If you have any questions, please contact Mr. Robert Nestel, Environmental Biologist, at 303-716-2142 or write to the above address, Attention: HPD-16.5, Environment.

Sincerely yours,



James W. Keeley, P.E.  
Project Development Engineer

Enclosures





COLORADO  
HISTORICAL  
SOCIETY

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

July 1, 1999

Stephen Hallisy  
Environmental Protection Specialist  
Federal Highway Administration  
555 Zang Street  
P.O. Box 25246  
Denver, Colorado 80225-0246

**Re: Determination of Eligibility for Colorado Forest Highway 80, Guanella Pass Road  
(5CC995/5PA1139) (FHWA Project #HPD-16)**

Dear Mr. Hallisy:

Thank you for the additional time required for our office to sufficiently address the various documents we received concerning the eligibility of the above property.

As you are aware, our office originally concurred with the Federal Highway Administration's opinion that the Guanella Pass Road was not eligible for listing in the National Register of Historic Places. The United States Forest Service also concurred that the road is not eligible for listing. Upon further review of the subsequent documents submitted to our office from various interested parties, we maintain our opinion that the Guanella Pass Road is not eligible for listing.

The Guanella Pass Road is a very important amenity for the Georgetown-Silver Plume National Historic Landmark District. The road's initial switchbacks serve as the backdrop for this nationally significant area and the road leads to a number of important cultural resources. However, while the road may be surrounded by, and lead to, a number of important cultural resources, it is not an individually eligible feature on its own. The original trail, which was the predecessor to the current road configuration, is no longer visible due to previous alterations. Also, the road is not significant under any engineering criteria as these alterations are too recent.

Because the Guanella Pass Road is in the immediate view shed of the landmark district, our office considers the Georgetown-Silver Plume National Historic Landmark District to be in the area of potential effect for this proposed project. As stated earlier, there also are a number of historic properties in this area of potential effect which have been determined to be eligible for listing. It is this office's understanding that each of the proposed project alternatives will alter the road to varying degrees and will, in turn, alter the backdrop for the Historic Landmark District. The Colorado Historical Society looks forward to reviewing the Guanella Pass Road project proposals

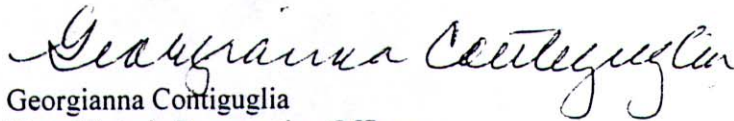
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OFFICE OF ARCHAEOLOGY AND HISTORIC PRESERVATION  
303-866-3392 • Fax 303-866-2711 • E-mail: oahp@chs.state.co.us • Internet: <http://www.copin.org>

in order that we may assist in finding the best solution to the traffic and safety issues of the road while safeguarding our historic cultural resources in and around the Historic Landmark District.

If you have any questions or need clarification, please call Judy Ehrlich, Architectural Services Coordinator, at (303) 866-3741.

Sincerely,



Georgianna Contiguglia  
State Historic Preservation Officer

Cc: Barbara Boyer, Clear Creek County  
Monta Lee Dakin, Colorado Preservation, Inc.  
Coralie Anderson, Georgetown  
Ron Neely, Historic Georgetown, Inc.



COLORADO  
HISTORICAL  
SOCIETY

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

May 25, 1999

Stephen Hallisy  
Environmental Protection Specialist  
Federal Highway Administration  
555 Zang Street  
P.O. Box 25246  
Denver, Colorado 80225-0246

**Re: Determination of Eligibility for Colorado Forest Highway 80, Guanella Pass Road  
(5CC995/SPA1139) (FHWA Project #HPD-16)**

Dear Mr. Hallisy:

Thank you for the opportunity to meet with you and Mark Taylor on April 27, 1999, to discuss the above project.

Since the meeting, we have received several documents and letters which contain information pertinent to the determination of eligibility of the Guanella Pass Road. The Clear Creek County Tourism Board submitted a new Management Data Form and a copy of *Guanella Pass Scenic & Historic Byway Corridor Management Plan with Recommendations for the Clear Creek County Segments* on May 3. We have also received letters supporting the eligibility of the Pass from Colorado Preservation, Inc. and Coralue Anderson, a resident of Georgetown who's family has resided in the area since the 1870's. While most of the information reiterates what we already believe to be established facts, some of the information is conflicting.

We understand your need for a final eligibility determination in order to expedite your road project plans. However, because of the amount of information we have received, we will require additional time to sufficiently address this new material before we can offer our final opinion on eligibility.

If you have any questions, please call Judy Williams, Architectural Services Coordinator, at (303) 866-3035, or Kaaren Hardy, Intergovernmental Services Director, at (303) 866-3392.

Sincerely,



Georgianna Contiguglia  
State Historic Preservation Officer

Cc: Barbara Boyer, Clear Creek County  
Monta Lee Dakin, Colorado Preservation, Inc.  
Coralue Anderson, Georgetown  
Ron Neely, Historic Georgetown, Inc.



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

# Memorandum

Subject: **INFORMATION: Context Sensitive Design**

Date: May 13, 1999

From: *Vince Schumoller*  
Anthony R. Kane  
Executive Director

Reply to  
Attn. of: HIPA

To: Resource Center Directors  
Division Administrators  
Federal Lands Highway Division Engineers

In May 1998, Maryland DOT, FHWA and AASHTO sponsored, along with numerous other co-sponsors, a national workshop on integrating highway development with communities and the environment while maintaining safety and performance, i.e., context sensitive design. The workshop was titled "Thinking Beyond the Pavement."

With my October 12, 1998, memorandum, "Thinking Beyond the Pavement Report," I sent you copies of a summary report of the workshop. That report briefly described the goals of the workshop and the conclusions that were reached. You may want to refer to that document for more background. If you need additional copies, please contact Harold Peaks (202-366-1598) or Seppo Sillan (202-366-1327).

One of the most important results of the workshop was the identification of initiatives to keep moving ahead the momentum established by the workshop. These initiatives were the development of pilot training programs in five States and the development of additional material to supplement the FHWA document on the "Flexibility in Highway Design." The status of these initiatives is:

- Each of the five pilot States, Connecticut, Maryland, Utah, Minnesota and Kentucky, are well underway in developing the most effective mechanisms to achieve context sensitive design within their individual State. Some have conducted initial activities, while others are focusing on finalizing strategies and time tables. Connecticut, for example, has developed and issued a new design manual which offers a wide range of alternative design criteria for non-National Highway System projects. Also, this past March, Connecticut DOT held a training session on the new manual and highlighted the importance of context sensitive design. Minnesota DOT has presented the context sensitive design approach and principles to various Minnesota DOT employees.

- Some other non-pilot States, such as Vermont and Maine have developed procedures to address context sensitive project development and program issues.
- The five pilot States will be sharing their experiences at various AASHTO meetings in order to assist other States in developing their own procedures and training. Context sensitive design is a major topic at the 1999 AASHTO Subcommittee on Design meeting in Dewey Beach, Delaware, on June 21 to 25. Each of the pilot States will be providing progress reports.
- To support the AASHTO Subcommittee on Design acceptance of the FHWA's "Flexibility in Highway Design" document, new chapters on environmental design, roadside safety, geometric design, and liability are being developed by the Subcommittee Task Forces on Environmental Design, Roadside Safety, Geometric Design and the AASHTO's Subcommittee on Legal Affairs. The Joint Task Force for Aesthetic Design, chaired by Jim Byrnes of Connecticut DOT, is coordinating the development of this additional text. The new chapters will be combined into a single document and submitted, along with FHWA's "Flexibility in Highway Design" document, to the Subcommittee on Design for balloting.

In addition to these AASHTO efforts, ASCE, with FHWA's co-sponsorship, is conducting a "Context Sensitive Highway Design Workshop" this June 17 and 18, in Reston, Virginia. The format will be similar to the "Thinking Beyond the Pavement" in Maryland last year. There will be presentations and break-out sessions to discuss specific case studies. In addition, the pilot States for training development will be represented and will provide latest information on their efforts. To the extent your travel funds allow, I highly recommend attendance at this ASCE workshop. Program, hotel, registration, etc., details can be found in ASCE's web site at [www.asce.org/conferences/context/](http://www.asce.org/conferences/context/).

Context sensitive design is an important part of our effort to provide sustainable transportation service to the public. Therefore, I am very pleased by the level of interest shown in these initiatives and by the strong leadership from AASHTO and the various FHWA offices, Headquarters (HQ) and field, in keeping the momentum going. I am also extremely pleased by the progress by the pilot States. We in HQ are ready to assist the divisions and the States in any way we can to keep this momentum going. The CBU Program Managers Vincent F. Schimmoller (Infrastructure) and Cynthia Burbank (Planning and Environment) are leading this effort. Staff from their offices (Henry Rentz and Seppo Sillan, Infrastructure; Harold Peaks, Planning and Environment) would be pleased to provide further information and assistance.



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

Central Federal Lands  
Highway Division

555 Zang Street, Room 259  
Lakewood, CO 80228

**MAY 03 1999**  
In Reply Refer To:  
HPD-16

Mr. Clay Ronish  
Fish and Wildlife Service  
Denver Federal Center  
PO Box 25486  
Denver, CO 80225-0207


Dear Mr. Ronish:

By letter of April 24, 1998, we transmitted a biological assessment to you for the proposed reconstruction project on Guanella Pass Road. Your reply of June 19, 1998 concurred with the biological assessment findings. Since that time, the Canada lynx has been proposed for listing so the finding for that species needs to be changed.

The biological assessment stated that alternative 1 would not affect the lynx and that "With appropriate mitigation, alternatives 2, 3, and 4 may impact individuals but would not be likely to result in a trend toward federal listing or loss of viability of the Canada lynx within the Arapaho and Pike National Forests." Based on the new status of the lynx, the finding is changed to "Alternative 1 will not affect the lynx. Alternatives 2, 3, 4, or 5 may affect, but are not likely to jeopardize, the existence of the lynx or result in destruction or modification of proposed critical habitat. Should the lynx become listed as endangered, Alternative 1 will not affect the lynx and Alternatives 2, 3, 4, or 5 may affect, but are not likely to adversely affect, the lynx."

We would like to know if you concur with the new finding. Although formal consultation is not required for this project (at least not at this time), we look forward to working with your office in developing appropriate mitigation for both the lynx and the boreal toad. If you have any questions, please contact Mr. Robert Nestel, Environmental Biologist, at 303-716-2142 or write to the above address, Attention: HPD-16.5, Environment.

Sincerely yours,



James W. Keeley, R.E.  
Project Development Engineer

bc: R. Nestel *RN*  
yc: reading file  
Central File - CO FH 080  
RNestel:rn:jm:5/3/99:L:\ENVIRONM\WP\CO080\FWS2.WPD



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File Code: 2360

Date: April 2, 1999

**STEVE HALLISY  
US DEPT. OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION  
CENTRAL FEDERAL LANDS HIGHWAY DIVISION  
555 ZANG STREET  
P.O. BOX 25246  
DENVER, CO. 80225-0246**

Dear Mr. Hallisy,

In response to your request for comment (refer to James Keeley letter to Jim Cuthbertson dated February 3rd, 1999), we have reviewed the latest documents pertinent to National Historic Preservation Act (NHPA) compliance studies for the proposed Colorado Forest Highway 80 Guanella Pass Road improvement project. Mr. Kane has previously commented on draft versions of the EIS and NHPA compliance documents (May 1998 letter). In this letter we provide comment on the National Register of Historic Places eligibility recommendations provided in the February 3rd letter; our comments are based on review of two NHPA compliance reports: the July 15, 1998 Intensive Cultural Resources Survey prepared by Henry Walt, and the January 1999 Addendum to the Intensive Cultural Resources Survey prepared by SWCA, Inc.

Our review comments address mainly the National Register of Historic Places eligibility recommendations presented in the February 3rd letter; presumably the Federal Highway Administration will develop appropriate mitigation treatments for potentially affected eligible properties at a later date. We would like to assist in this process. Our comments are as follows:

1. Regarding 5CC861, possible fragments of the Georgetown, Argentine, Snake River, and Green Lake Wagon Road. This wagon road appears to be prominent in historic accounts of Georgetown and thus may be eligible to the National Register of Historic Places through application of Criterion A. Intact segments that contain integrity (intact and unmodified portions of the original roadbed) may constitute contributing elements of this property. The site record in the Walt report indicates possible segments as dots with the caveat that the segments may extend beyond the R.O.W. If this is in fact the case, these segments may be contributing. Perhaps a more certain determination could be made with the aid of aerial photographs. We suggest that more information regarding the segments identified by Walt would be desirable before a recommendation regarding eligibility can be made with better certainty.





2. Regarding 5PA403, the village of Grant. Grant historically was the railhead for the Denver, South Park and Pacific Railroad before it was extended over Kenosha Pass. The community served as a point where supplies for the mining Frontier were off-loaded and extracted raw materials such as ore and timber were on-loaded. Grant was the location of a large charcoal manufacturing operation. However, according to the Walt report, no historic structures associated with the original frontier community have survived. We therefore concur with your recommendation that Grant is not eligible to the National Register under Criteria A, B, and C. However, there may be subsurface archaeological deposits and features associated with the frontier railhead community that cannot be observed from the surface. Therefore we request that the initial construction of the road in the Grant vicinity be monitored by an archaeologist.
3. Site 5PA41. We concur that this property is not eligible to the National Register.
4. Site 5PA142, the Tumbling Rock Rockshelter. This site may contain intact archeological deposits below the disturbed surface; we concur that the property may be eligible to the National Register.
5. Site 5CC995/5PA1139, the Guanella Pass Road. We concur that the Road is not eligible to the National Register.
6. Sites 5CC994 and 5CC988-5CC993. We concur that these properties are eligible to the National Register.
7. Sites 5CC461.4, 5CC461.3, 5CC70, 5CC178, and 5CC3.220. These sites have been previously determined eligible. We see no rationale for reviewing these determinations based on the new information from the current study.

Thank you for the opportunity to review these reports and findings. If you have any questions regarding our review please contact Al Kane at the Pike National Forest Headquarters [(719) 545-3747] or Jeff Overturf at the Arapaho and Roosevelt National Forests [(970) 498-1281].

Sincerely,



<sup>40</sup> Allen E. Kane, Forest Archaeologist  
Pike and San Isabel National Forests  
Jeff Overturf, Archaeologist  
Arapaho and Roosevelt National Forests

cc: Jim Cuthbertson, US Forest Service



File Code: 1950/2670

Date: March 25, 1999

Route To: Clear Creek Ranger District

Subject: Guanella Pass Road - Biological Assessment/Biological Evaluation (BA/BE)

To: Jim Cuthbertson

Attached is the signature page for the BA/BE signed by Paula Guenther-Gloss and myself. Only Denny Bohon's signature is now missing. I signed it with the condition that the lynx portion be modified either in the text or by errata sheet to the following effect:

*Since preparation of the April 1998 BA/BE, the Canada lynx has become federally proposed as threatened. As such, the determination terminology used for lynx as then a Forest Service sensitive species should be changed to terminology consistent with the Endangered Species Act of 1973, as amended. Accordingly the determinations on pages 34-35 of the BA/BE should be changed to will not affect the lynx nor proposed critical habitat for Alternative 1, and may affect, but not likely to jeopardize continued existence of the lynx nor likely to result in destruction or adverse modification of proposed critical habitat for Alternatives 2, 3 and 4. It is also determined that should lynx become listed as threatened in the future, that Alternative 1 will not effect the lynx and that Alternatives 2, 3 and 4 may affect, but not likely adversely affect the lynx. Otherwise, the content of the BA/BE for lynx remains adequate.*

I also understand that Federal Highway Administration, as lead agency, will be responsible for further informal consultation with the US Fish and Wildlife Service, in obtaining their concurrence on the determinations for federal endangered, threatened and proposed species in the BA/BE on the proposed action.


Dennis G. Lowry


cc Paula Guenther-Gloss  
Denny Bohon

Guanella Pass Road  
Colorado Forest Highway 80

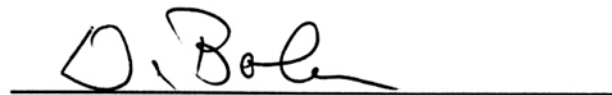
Biological Assessment/Biological Evaluation  
April, 1998

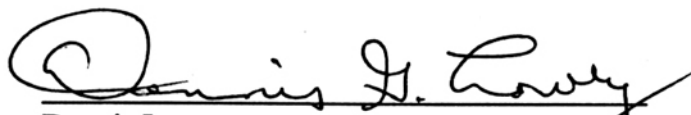
**Principal Investigators:**

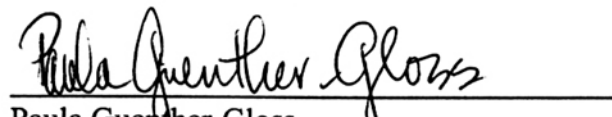
  
\_\_\_\_\_  
David Buckner, Ph.D.  
ESCO Associates

  
\_\_\_\_\_  
Tim Baumann  
Western Consulting Group

**Reviewed by:**

  
\_\_\_\_\_  
Denny Bohon  
District Biologist, Pike & San Isabel National Forests

  
\_\_\_\_\_  
Dennis Lowry  
Forest Wildlife Biologist, Arapaho & Roosevelt National Forests

  
\_\_\_\_\_  
Paula Guenther-Gloss  
Forest Biologist, Arapaho & Roosevelt National Forests

# The Town of Georgetown

P.O. Box 426  
Georgetown, Colorado 80444  
(303) 569-2555

February 27, 1999

To: Cathy Watson, Town Administrator  
From: Design Review Commission

Re: DRC Comments on FHWA Cultural Resources Study and Determination of National Register Eligibility for sites along Colorado Forest Highway 80, Guanella Pass Road

The Design Review Commission of the Town of Georgetown acting in the capacity of authorized agency for the Certified Local Government reviewed the documents "An Intensive Cultural Resources Survey along the Guanella Pass Road..." submitted by Henry Walt along with its Appendices. The Commission further reviewed "An Addendum to an Intensive Cultural Resources Survey along the Guanella Pass Road..." and its appendix submitted by SWCA, Inc. At the regular meeting of February 25, 1999 the Commission voted unanimously on the following comments on the FHWA determination of eligibility.

The Commission has four major areas of concern with the determination of eligibility.

1. **Eligibility of Site 5CC995/PA1139 Guanella Pass Road:** The Commission does not agree that the road is not register eligible. Walt's summary indicates, and accompanying appendices document, the transportation corridor was in existence as early as 1859 with vehicle use to Naylor Lake by 1922 from Georgetown and to Duck Lake from Park County in the early years of this century. As a transportation corridor the Guanella Pass Road was important to the history of 19th century mining, timbering and recreational activities. The portion of the road which was completed in 1951 by Byron Guanella was the widening of the segment across the top from Naylor Lake to Duck Lake (a distance of less than five miles out of the road length of 23) from a wagon road to a motor vehicle road. Walt quotes the Peaker study "When Byron Guanella constructed the road over the pass, it was thought to be a significant and impressive engineering feat." This information plus the further documentation in the Appendices appears to be in direct conflict with the FHWA conclusion that: "*Guanella Pass Road is a two-lane rural connector that is neither unique nor distinctive in its design or construction. It does not possess significant qualities found in American history and engineering, nor does it possess qualities associated with events, persons, distinctive construction methods or important historic information to merit a National Register Listing*" (page 2 lineal component Form PA 1139). To arrive at that conclusion is to conclude that the 19th century development of mining, timbering and mountain recreation in the Rocky Mountain West is meaningless to America History. The road is a designated Scenic

and Historic Byway. It would not have received that designation without being "historic".

**2. Sites considered register eligible by Walt but omitted from listing**

On page 30 of the Walt Summary sites in the Silverdale area which are within 60 feet of the road are mentioned as register eligible. These sites are not included in the eligibility listing. Specifically these sites are:

**5CC891 The Equator Mine:** Features include a mine portal and four structures between the road and Leavenworth Creek

**5CC895 Aqueduct to the Marshall Tunnel:** Features include a masonry dam, other masonry foundations with some remnants of pipe. " This is a National Register eligible property."

**3. Sites within the two mile study corridor** The Colorado State Office of Archeology and Historic Preservation required that the scope of the original survey be expanded to include archival research on historic properties within a two-mile wide study area as road work will have indirect as well as direct impacts on cultural resources. Numerous sites in the two mile area are mentioned in the Walt summary but are not included in the evaluation of eligibility. Inventory sites within that two mile area which have possible register eligibility include:

5CC175 Silverdale Townsite

5CC176 Silverdale Cemetery

5CC177 Kirtley Mine

Colorado Central Mill

Argentine Central Railroad Bed

Sites missing from any inventory or evaluation but mentioned in the reports include all three 19th and early 20th century recreational and fishing camps.

Green Lake: Facilities are discussed at length on pages 29, 30 and in Appendix J. Walt's conclusion on page 30 is that " this historic site clearly requires attention as an historic and cultural resource".

Naylor Lake Road/trail: The road/trail and the structures at the lake are mentioned on page 18 as dating from 1908 with the road being discussed as early as 1916.

Duck Lake: The construction of the Duck Lake Lodge is described on page 23. The fishing camps are not insignificant sites in the history of the road.

**4. Contributing sites within the Georgetown Silver Plume National Historic Landmark District** Sites # 5CC994 and sites 5CC988 - 5CC993 are specifically mentioned as contributing elements to the GSPNHLD which may be affected by the project. The Walt summary also mentions Sites 5CC3.117, 5CC3.211 and 5CC3.212., which are structures along Third Street , as contributing elements which would be affected by the project (see Appendix F). Possible contributing sites affected in the Spring Street /Loop Drive area have not been identified. The commission feels **all** contributing structures and sites within the District which may be directly effected should be identified individually.

The Commission recommends that the Appendices be expanded to give a complete review of the Cultural Resources associated with the road. The Appendices should include the application for National Register Designation for the Georgetown Silver Plume National Historic Landmark District, the summary of the Tate 1991 Cultural Resources Study for the Georgetown Historic Hydroelectric District, and the application for designation as a Colorado Scenic and Historic Byway.

The Commission further suggests that a field study of three and one half days in November for a 23.5 mile road which is above an elevation of 8500 feet and which has been in use as a transportation corridor for well over 100 years might not be adequate.

Please be advised the Commission has only considered that portion of the road which lies within Clear Creek County.

Please forward this review to the Stephen Hallisy, Environmental Protection Specialist, FHWA, 555 Zang Street, Room 259, Lakewood, Colorado 80228 and to the State Historic Preservation Officer c/o Kaaren Hardy, Office of Archaeology and Historic Preservation, 1300 Broadway Denver, Colorado 80203.



COLORADO  
HISTORICAL  
SOCIETY

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

February 22, 1999

James W. Keeley, P.E.  
Project Development Engineer  
Federal Highway Administration  
555 Zang Street, Room 259  
Lakewood, Colorado 80228

Re: Colorado Forest Highway 80, Guanella Pass Road (FHWA Project #HPD-16)

Dear Mr. Keeley:

Thank you for your correspondence received February 4, 1999, concerning the proposed Guanella Pass Road project involving United States Department of Transportation funds. Included with your letter was a copy of the report entitled, *An Addendum to an Intensive Cultural Resource Survey Along the Guanella Pass Road*.

Our office has reviewed the presented material and your request for our determinations of eligibility for sites in the area of potential effect for the Guanella Pass project. Our current assessments of the evaluated resources for listing in the National Register of Historic Places are as follows:

SITE	SITE NAME	DETERMINATION OF ELIGIBILITY
5CC861	Georgetown, Argentine & Snake River/Green Lake Wagon Road	Officially Not Eligible
5PA403	Grant, Colorado	Officially Not Eligible
5PA41	No Name (Site originally consisted of five flakes)	Officially Not Eligible

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OFFICE OF ARCHAEOLOGY AND HISTORIC PRESERVATION  
303-866-3392 \* Fax 303-866-2711 \* E-mail: [pie@sni.net](mailto:pie@sni.net) \* Internet: <http://www.copin.org>

5PA142	Tumbling River Rock Shelter	Needs More Data
5CC995/ 5PA1139	Guanella Pass Road	Officially Not Eligible
5CC994	Farwell Smelter Remains	Officially Eligible
5CC988- 5CC993	Mine Tailing Dumps	Officially Eligible
5CC461.4	Clear Lake Dam and Reservoir	Previously Determined Officially Eligible
5CC461.3	Georgetown Forebay Dam and Reservoir	Previously Determined Officially Eligible
5CC70	Open Lithic Scatter	Previously Determined Officially Eligible
5CC178	The Marshall Tunnel	Previously Determined Officially Eligible
5CC3.220	The Colorado Central Railroad Grade	Previously Determined Officially Eligible

The linear features of the Georgetown, Argentine, Snake River and Green Lake Wagon Road have been disrupted and are fragmented from their original configuration. According to the survey by Dr. Henry Walt, few historic resources remain in the town of Grant. (Please provide our office with a full copy of the recent inventory form for the town of Grant. Our copy has only the information from the first page.) Site 5PA41 could not be located as no flakes were found above ground. Therefore, we concur with your determinations that the above three sites are not eligible for listing in the National Register.

We concur with your determinations that the Farwell Smelter, and the six tailing dumps, are eligible for listing under Criterion "A", for their associations with the history of the development of Georgetown and Silver Plume. Although site 5CC988 is outside of but adjacent to the Georgetown-Silver Plume National Historic Landmark District, we concur with your assessment that it should be recommended as a contributing element if the boundaries of the Historic District ever change.

The last five sites listed above, Clear Lake Dam and Reservoir, Georgetown Forebay Dam and Reservoir, Open Lithic Scatter, the Marshall Tunnel, and the Colorado Central Railroad Grade, were previously determined eligible by this office in a letter to Larry D. Henry dated October 22, 1997.



February 22, 1999

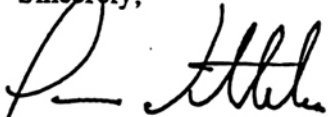
Page 3

We concur with your determinations that Guanella Pass Road is not eligible for listing at this time. Because it is only a few years away from the qualifying age, however, our office believes that the Pass Road may merit a re-evaluation once it becomes fifty years of age. The Guanella Pass Road is also in the view shed of the Georgetown-Silver Plume National Historic Landmark District. It is this office's understanding that each of the proposed project alternatives will alter the road to varying degrees and will, in turn, alter the backdrop for the Historic Landmark District. The Colorado Historical Society looks forward to reviewing the Guanella Pass Road project proposals in order that we may assist in finding the best solution to the traffic and safety issues of the road while safeguarding our historic cultural resources in and around the Historic Landmark District.

We are requesting further information for our review of the Tumbling River Rock Shelter (5PA142). We understand that the site attracts a number of visitors and has been damaged because of this. However, from the survey description, we believe that subsurface information may still be available. We therefore request a test excavation be performed in order to determine the extent of existing subsurface archaeological resources, if any.

We look forward to receiving the determinations of eligibility opinions from the Forest Service and from Georgetown (a Certified Local Government), as described in your letter. If you have any questions or need clarification, please call Judy Williams, Architectural Services Coordinator, at (303) 866-3035.

Sincerely,

  
Georgianna Contiguglia  
State Historic Preservation Officer

---

OFFICE OF ARCHAEOLOGY AND HISTORIC PRESERVATION  
303-866-3392 \* Fax 303-866-2711 \* E-mail: [pie@sni.net](mailto:pie@sni.net) \* Internet: <http://www.copin.org>



U.S. Department  
of Transportation

**Federal Highway  
Administration**

Central Federal Lands  
Highway Division

555 Zang Street, Room 259  
Lakewood, CO 80228

**FEB 03 1999**

**In Reply Refer To:  
HPD-16**

Ms. Cathy Watson  
Town Administrator  
Georgetown Planning Commission  
PO Box 426  
Georgetown, CO 80444

Attention: Ms. Cynthia Neeley

Dear Ms. Watson:

**Subject: Colorado Forest Highway 80, Guanella Pass Road,  
Cultural Resources Determination of National Register Eligibility**

The enclosed report entitled, "An Addendum to An Intensive Cultural Resource Survey along the Guanella Pass Road, Colorado Forest Highway 80, Park and Clear Creek Counties, Colorado", prepared by SWCA, Inc., Environmental Consultants under contract to the Federal Highways Administration (FHWA), identifies and evaluates seven historic properties within the subject project study corridor. This report is an addendum to Dr. Henry Walt's final cultural resource inventory report which was distributed to you under separate cover in November 1998. Dr. Walt recorded one new site and reevaluated eight previously recorded sites. In response to the State Historic Preservation Officer's comments to the FHWA on October 22, 1997, the FHWA has prepared a site form for Guanella Pass Road. Dr. Walt's final inventory report of July 1998 has been revised beyond the scope of the earlier draft report (May 1997) to include archival research on historic properties within a two-mile wide study corridor (one mile on each side of Guanella Pass Road). Be advised that Appendix A of the enclosed report is not a public document. To avoid violation of laws protecting the location of cultural resources, it is likely that information contained in the document would be withheld from the public even under a Freedom of Information Act request.

On the basis of Dr. Walt's inventory report and SWCA's supplemental report findings, and in accordance with Section 106 of the National Historic Preservation Act and Federal Regulation 36 Part 800, the FHWA has determined that:

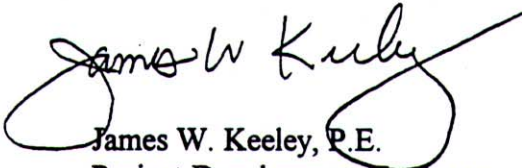
1. The following five sites do not meet eligibility criteria for listing on the National Register of Historical Places (NRHP):
  - A. *Site 5CC.861* consists of seven discontinuous linear features that might have been remnants of the historic Georgetown, Argentine, Snake River, and Green Lake Wagon Road. No contemporaneous artifacts were found associated with the road segments. Individually, these isolated segments are fragmentary, and have been disrupted by subsequent road building, erosion control features, roadside pullouts, and recent earth moving activities.
  - B. *Site 5PA403* is the village of Grant, Colorado. Walt (1998) reevaluated this site, since it was first recorded in 1976 by Harold Warren, and concluded that little of the original village remains and that architecturally it lacks historic integrity. Walt's archival research found historic documentation to be insufficient to adequately establish the historic settlement pattern of the original village. We have applied National Register eligibility criteria in evaluating this site and find that the site does not possess integrity of location, design, setting, materials, workmanship, feeling, and association.
  - C. *Site 5PA41*, consisting of five lightly worked flakes, was originally recorded by Jan Peaked in 1975. Dr. Walt was unable to relocate this site during his inventory. Consequently, we have applied National Register eligibility criteria in evaluating this site and find that the site does not possess integrity of location, design, setting, materials, workmanship, feeling, and association.
  - D. *Site 5PA142* is the tumbling river rock shelter. Dr. Walt revisited and reevaluated this site and found it to be incorrectly located on the original site form. Since it was originally recorded in 1977, the site has been damaged by recent recreational use and retains little of its original fabric. We have applied National Register eligibility criteria in evaluating this site and, given its current condition, find that the site does not possess integrity of location, design, setting, materials, workmanship, feeling, and association. However, since this site is outside of the project's area of potential effect it was not tested for potential intact subsurface deposits which could potentially provide sufficient information to determine the sites eligibility for the National Register.
  - E. *Site 5CC995/PA1139, Guanella Pass Road*, has only been in use since 1951 and is less than 50 years old. We have applied National Register eligibility criteria and determined that Guanella Pass Road has not achieved exceptional importance or significance within the past 50 years. This site is neither unique nor distinctive in its design or construction methods. It does not possess significant qualities found in American history and engineering works, nor does it possess qualities associated with events, persons, distinctive construction methods or important information to merit National Register listing.

2. The following seven sites meet eligibility criteria for listing on the NRHP:
  - A. *Site 5CC994*, the remnants of the Farwell smelter and *Sites 5CC988-5CC993*, six mine tailing dumps, are eligible for listing on the NRHP under National Register criteria "A" as contributing elements to the historic landscape of the Georgetown-Silver Plume National Historic Landmark District. Although site 5CC988 is located outside of but adjacent to the District, it is also recommended as potentially eligible for National Register listing should the boundaries of the District ever be expanded to include this site.
3. The following five sites have already been determined eligible for listing on the NRHP by the Colorado State Historic Preservation Office:
  - A. *Site 5CC461.4*, Clear Lake Dam and Reservoir.
  - B. *Site 5CC461.3*, Georgetown Forebay Dam and Reservoir.
  - C. *Site 5CC70*, Open lithic scatter.
  - D. *Site 5CC178*, The Marshall Tunnel.
  - E. *Site 5CC.3.220*, The Colorado Central Railroad Grade.

Before we can submit our determination to the Colorado State Historic Preservation Officer (SHPO) for comment, and in accordance with the code of federal regulations number 36 part 800, we request your comments on our determination of eligibility within the next 30 days.

If you have any questions, please contact Mr. Stephen Hallisy, Environmental Protection Specialist, at 303-716-2140 or write to the above address, Attention: HPD-16, Environment.

Sincerely yours,



James W. Keeley, P.E.  
Project Development Engineer

Enclosures

bc w/o enclosures:

S. Hallisy,

M. Taylor

yc: reading file

Central file -CO FH 080

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U.S. Department  
of Transportation

**Federal Highway  
Administration**

Central Federal Lands  
Highway Division

555 Zang Street, Room 259  
Lakewood, CO 80228

FEB 03 1999

In Reply Refer To:  
HPD-16

Mr. James E. Hartman  
State Historic Preservation Officer  
Colorado Historical Society  
1300 Broadway  
Denver, CO 80203-2137

Attention: Ms. Kaaren K. Hardy

Dear Mr. Hartman:

Subject: Colorado Forest Highway 80, Guanella Pass Road,  
Determination of National Register Eligibility

The enclosed report entitled, "An Addendum to An Intensive Cultural Resource Survey along the Guanella Pass Road, Colorado Forest Highway 80, Park and Clear Creek Counties, Colorado", prepared by SWCA, Inc., Environmental Consultants under contract to the Federal Highway Administration (FHWA), identifies and evaluates seven historic properties within the subject project study corridor. This report is an addendum to Dr. Henry Walt's final cultural resource inventory report which was distributed to you under separate cover in November 1998. Dr. Walt recorded one new site and reevaluated eight previously recorded sites. In response to the State Historic Preservation Officer's comments to the FHWA on October 22, 1997, the FHWA has prepared a site form for Guanella Pass Road. Dr. Walt's final inventory report of July 1998 has been revised beyond the scope of the earlier draft report (May 1997) to include archival research on historic properties within a two-mile wide study corridor (one mile on each side of Guanella Pass Road).

On the basis of Dr. Walt's inventory report and SWCA's supplemental report findings, and in accordance to Section 106 of the National Historic Preservation Act and Coded Federal Regulation 36 Part 800, the FHWA has determined that:

1. The following five sites do not meet eligibility criteria for listing on the National Register of Historic Places (NRHP):
  - A. *Site 5CC.861* consists of seven discontinuous linear features that might have been remnants of the historic Georgetown, Argentine, Snake River, and Green Lake Wagon Road. No contemporaneous artifacts were found associated with the road segments. Individually, these isolated segments are fragmentary, and have been disrupted by subsequent road building, erosion control features, roadside pullouts, and recent earth moving activities.

- B. *Site 5PA403* is the village of Grant, Colorado. Dr. Walt (1998) reevaluated this site, since it was first recorded in 1976 by Harold Warren, and concluded that little of the original village remains and that architecturally it lacks historic integrity. Dr. Walt's archival research found historic documentation to be insufficient to adequately establish the historic settlement pattern of the original village. We have applied National Register eligibility criteria in evaluating this site and find that the site does not possess integrity of location, design, setting, materials, workmanship, feeling, and association.
- C. *Site 5PA41*, consisting of five lightly worked flakes, was originally recorded by Ms. Jan Peaked in 1975. Dr. Walt was unable to relocate this site during his inventory. Consequently, we have applied National Register eligibility criteria in evaluating this site and find that the site does not possess integrity of location, design, setting, materials, workmanship, feeling, and association.
- D. *Site 5PA142* is the tumbling river rock shelter. Dr. Walt revisited and reevaluated this site and found it to be incorrectly located on the original site form. Since it was originally recorded in 1977, the site has been damaged by recent recreational use and retains little of its original fabric. We have applied National Register eligibility criteria in evaluating this site and, given its current condition, find that the site does not possess integrity of location, design, setting, materials, workmanship, feeling, and association. However, since this site is outside of the project's area of potential effect it was not tested for potential, intact subsurface deposits which could potentially provide sufficient information to determine the sites eligibility for the National Register.
- E. *Site 5CC995/PA1139, Guanella Pass Road*, has only been in use since 1951 and is less than 50 years old. We have applied National Register eligibility criteria and determined that Guanella Pass Road has not achieved exceptional importance or significance within the past 50 years. This site is neither unique nor distinctive in its design or construction methods. It does not possess significant qualities found in American history and engineering works, nor does it possess qualities associated with events, persons, distinctive construction methods or important information to merit National Register listing.

2. The following seven sites meet eligibility criteria for listing on the NRHP:

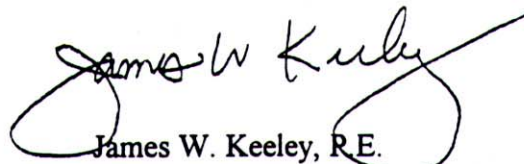
- A. *Site 5CC994*, the remnants of the Farwell smelter and *Sites 5CC988-5CC993*, six mine tailing dumps, are eligible for listing on the NRHP under National Register criteria "A" as contributing elements to the historic landscape of the Georgetown-Silver Plume National Historic Landmark District. Although site 5CC988 is located outside of but adjacent to the District, it is also recommended as potentially eligible for National Register listing should the boundaries of the District ever be expanded to include this site.

3. The following five sites have already been determined eligible for listing on the NRHP by the Colorado State Historic Preservation Office:
- A. *Site 5CC461.4*, Clear Lake Dam and Reservoir.
  - B. *Site 5CC461.3*, Georgetown Forebay Dam and Reservoir.
  - C. *Site 5CC70*, Open lithic scatter.
  - D. *Site 5CC178*, The Marshall Tunnel.
  - E. *Site 5CC.3.220*, The Colorado Central Railroad Grade.

In accordance with code of federal regulations number 36 part 800, we request your comments on our determination of eligibility. We have requested the Forest Service and Georgetown (Certified Local Government) to provide you with their comments on our findings within the next 30 days. We will forward these comments to you under separate cover.

If you have any questions, please contact Mr. Stephen Hallisy, Environmental Protection Specialist, at 303-716-2140 or write to the above address, Attention: HPD-16, Environment.

Sincerely yours,



James W. Keeley, R.E.  
Project Development Engineer

Enclosures

bc w/o enclosures:

S. Hallisy\*

M. Taylor

yc: reading file

Central file -CO FH 080, Guanella Pass Road

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U.S. Department  
of Transportation

**Federal Highway  
Administration**

Central Federal Lands  
Highway Division

555 Zang Street, Room 259  
Lakewood, CO 80228

FEB 03 1999

In Reply Refer To:  
HPD-16

Mr. Jim Cuthbertson  
Clear Creek Ranger District  
Arapaho National Forest  
PO Box 3307  
Idaho Springs, CO 80452

Dear Mr. Cuthbertson:

Subject: Colorado Forest Highway 80, Guanella Pass Road,  
Cultural Resources Determination of National Register Eligibility

The enclosed report entitled, "An Addendum to An Intensive Cultural Resource Survey along the Guanella Pass Road, Colorado Forest Highway 80, Park and Clear Creek Counties, Colorado", prepared by SWCA, Inc., Environmental Consultants under contract to the Federal Highway Administration (FHWA), identifies and evaluates seven historic properties within the subject project study corridor. This report is an addendum to Dr. Henry Walt's final cultural resource inventory report which was distributed to you under separate cover in November 1998. Dr. Walt recorded one new site and reevaluated eight previously recorded sites. In response to the State Historic Preservation Officer's comments to the FHWA on October 22, 1997, the FHWA has prepared a site form for Guanella Pass Road. Dr. Walt's final inventory report of July 1998 has been revised beyond the scope of the earlier draft report (May 1997) to include archival research on historic properties within a two-mile wide study corridor (one mile on each side of Guanella Pass Road). Be advised that Appendix A of the enclosed report is not a public document. To avoid violation of laws protecting the location of cultural resources, it is likely that information contained in the document would be withheld from the public even under a Freedom of Information Act request.

On the basis of Dr. Walt's inventory report and SWCA's supplemental report findings, and in accordance to Section 106 of the National Historic Preservation Act and Federal Regulation 36 Part 800, the FHWA has determined that:

1. The following five sites do not meet eligibility criteria for listing on the National Register of Historic Places (NRHP):
  - A. *Site 5CC.861* consists of seven discontinuous linear features that might have been remnants of the historic Georgetown, Argentine, Snake River, and Green Lake Wagon Road. No contemporaneous artifacts were found associated with the road segments. Individually, these isolated segments are fragmentary, and have been disrupted by subsequent road building, erosion control features, roadside pullouts, and recent earth moving activities.



- B. *Site 5PA403* is the village of Grant, Colorado. Dr. Walt (1998) reevaluated this site, since it was first recorded in 1976 by Harold Warren, and concluded that little of the original village remains and that architecturally it lacks historic integrity. Dr. Walt's archival research found historic documentation to be insufficient to adequately establish the historic settlement pattern of the original village. We have applied National Register eligibility criteria in evaluating this site and find that the site does not possess integrity of location, design, setting, materials, workmanship, feeling, and association.
- C. *Site 5PA41*, consisting of five lightly worked flakes, was originally recorded by Ms. Jan Peaked in 1975. Dr. Walt was unable to relocate this site during his inventory. Consequently, we have applied National Register eligibility criteria in evaluating this site and find that the site does not possess integrity of location, design, setting, materials, workmanship, feeling, and association.
- D. *Site 5PA142* is the tumbling river rock shelter. Dr. Walt revisited and reevaluated this site and found it to be incorrectly located on the original site form. Since it was originally recorded in 1977, the site has been damaged by recent recreational use and retains little of its original fabric. We have applied National Register eligibility criteria in evaluating this site and, given its current condition, find that the site does not possess integrity of location, design, setting, materials, workmanship, feeling, and association. However, since this site is outside of the project's area of potential effect it was not tested for potential, intact subsurface deposits which could potentially provide sufficient information to determine the sites eligibility for the National Register.
- E. *Site 5CC995/PA1139, Guanella Pass Road*, has only been in use since 1951 and is less than 50 years old. We have applied National Register eligibility criteria and determined that Guanella Pass Road has not achieved exceptional importance or significance within the past 50 years. This site is neither unique nor distinctive in its design or construction methods. It does not possess significant qualities found in American history and engineering works, nor does it possess qualities associated with events, persons, distinctive construction methods or important information to merit National Register listing.

2. The following seven sites meet eligibility criteria for listing on the NRHP:

- A. *Site 5CC994*, the remnants of the Farwell smelter and *Sites 5CC988-5CC993*, six mine tailing dumps, are eligible for listing on the NRHP under National Register criteria "A" as contributing elements to the historic landscape of the Georgetown-Silver Plume National Historic Landmark District. Although site 5CC988 is located outside of but adjacent to the District, it is also recommended as potentially eligible for National Register listing should the boundaries of the District ever be expanded to include this site.

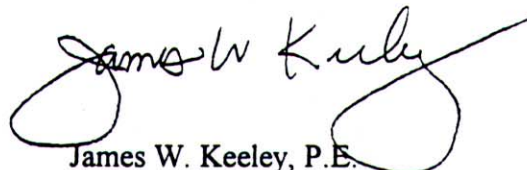
3. The following five sites have already been determined eligible for listing on the NRHP by the Colorado State Historic Preservation Office:

- A. *Site 5CC461.4*, Clear Lake Dam and Reservoir.
- B. *Site 5CC461.3*, Georgetown Forebay Dam and Reservoir.
- C. *Site 5CC70*, Open lithic scatter.
- D. *Site 5CC178*, The Marshall Tunnel.
- E. *Site 5CC.3.220*, The Colorado Central Railroad Grade.

Before we can submit our determination to the Colorado State Historic Preservation Officer for comment, and in accordance with Code of Federal Regulations number 36 part 800, we request your comments on our determination of eligibility within the next 30 days.

If you have any questions, please contact Mr. Stephen Hallisy, Environmental Protection Specialist, at 303-716-2140 or write to the above address, Attention: HPD-16, Environment.

Sincerely yours,



James W. Keeley, P.E.  
Project Development Engineer

Enclosures

bc w/o enclosures:

S. Hallisy\*

M. Taylor

yc: reading file

Central file -CO FH 080, Guanella Pass Road

SHALLISY:sh:jm:2/2/99:L\environ\wpdocs\CO080\crdoefs.1



**DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS, OMAHA DISTRICT  
TRI-LAKES PROJECT OFFICE, 9307 STATE HWY 121  
LITTLETON, COLORADO 80128-6901**

August 18, 1998

**REPLY TO  
ATTENTION OF:**

Robert Nestel  
US Department of Transportation  
Room 259  
555 Zang Street  
Lakewood, Colorado 80228

**RF: Guanella Pass Road HPD-16.5**

Dear Mr. Nestel:

This letter is to inform you that this office considers the wetland delineation dated July 23, 1998, accurate and acceptable. The wetlands are considered to be waters of the United States pursuant to Section 404 of the Clean Water Act. If a proposed activity requires work within these waters, this office should be contacted for proper Department of the Army permits.

This wetland jurisdictional determination is valid for a period of five years from the date of this letter unless information warrants revision of the delineation before the expiration date.

If you have any questions concerning this matter, please contact me at (303) 979-4120 and reference action ID #199580972.

Sincerely,

A handwritten signature in cursive script that reads "Rex Fletcher".

Rex Fletcher  
Environmental Resource Specialist



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

ES/CO: Federal Highway Administration:  
Guanella Pass BA  
Mail Stop 65412

Ecological Services  
Colorado Field Office  
P.O. Box 25486  
Denver Federal Center  
Denver, Colorado 80225-0207

Mr. James W. Keeley  
Project Development Engineer  
U.S. Department of Transportation  
Central Federal Lands Highway Division  
P.O. Box 25246  
Denver, Colorado 80225-0246

JUN 19 1998

Dear Mr. Keeley:

In response to your Biological Assessment of April 24, 1998, the U.S. Fish and Wildlife Service (Service) is providing comments on the effects of the proposed improvement of Guanella Pass Road on Threatened or Endangered species. The Service concurs with your determination that there is no effect on any listed species by your project. However, the Service is concerned about the possible impact to the boreal toad and the lynx. The Service offers the following recommendations to minimize the potential impacts.

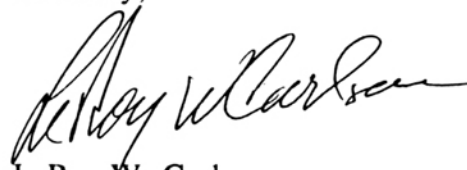
- Select the options that will not impact the boreal toad breeding habitat or modify the options that do by providing a buffer on the north side of the wetland in order to protect the habitat or avoid building on the north side
- Modify the options and/or the alternative to keep the road downstream of the breeding habitat
- If wetland impacts are unavoidable, could the wetland be bridged

The Service is also very interested in what mitigation is planned should toad habitat be impacted. Within the BA, the following lines are used, "without effective mitigation" and "with appropriate site-specific mitigation", however, there is no mitigation plan presented within the BA. It is also stated that any unmitigated impact to toad habitat may result in the loss of viability of toads in the Planning Unit and could move the toad closer to listing. The Service believes that this is not what we would like to see happen. Therefore, the Service would like to review your draft mitigation plan prior to going final in order to ensure that the habitat will be protected or replaced.

These comments have been prepared under the provisions of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et. seq.).

If the Service can be of further assistance, contact Clay Ronish of this office at (303) 275-2370.

Sincerely,

A handwritten signature in black ink, appearing to read "LeRoy W. Carlson". The signature is fluid and cursive, with the first name being the most prominent.

LeRoy W. Carlson  
Colorado Field Supervisor

cc: Reading file  
Project file

Reference: Clay\Species\Concur.027

# The Town of Georgetown

P.O. Box 426  
Georgetown, Colorado 80444  
(303) 569-2555

Clear Creek County Commissioners  
Box 2000  
Georgetown, CO 80444

March 11, 1998

Dear Commissioners:

The Board of Selectmen of the Town of Georgetown and members of its Planning Commission have reviewed the Preliminary Plan for the Guanella Pass Road prepared by the Federal Highway Department (FHWA). The town's initial position on proposed improvements to the Guanella Pass Road was expressed in a letter from this Board to the County Commissioners, dated February 11, 1997. As a result of developments and reviews during the past year, we are providing an update on the Town's position.

**Goal:** It is the goal of the Town of Georgetown is to preserve the character of the road, minimize negative visual impacts on the Town of Georgetown, preserve the historical significance of the National Historic Landmark District, and not adversely affect the Town's water supply, while also addressing the long-term concerns regarding safety, increased traffic, maintenance, and environmental requirements. The Town hopes to achieve this goal by making recommendations that would lead to a consensus between the Town and Clear Creek County.

**Concerns:** The primary concern is that the substantial widening, retaining, cutting, and filling that are proposed by the FHWA would dramatically change the existing purpose and experience of traveling the road. Within the Georgetown Silver Plume National Historic Landmark District, even substantial mitigation measures on Leavenworth Mountain would not be able to hide the construction scars that would be visible throughout town. Additionally, construction would negatively impact historic resources, including buildings and cultural sites. Furthermore, any changes at the Georgetown terminus of the road would have significant impact on the town itself.

The road traverses the watershed that provides the Georgetown water supply. Within and beyond the Landmark District, the Town seeks assurance that any road improvements that are made would not adversely affect Georgetown's water. Study results were not yet available to the Town to enable a full assessment of this aspect of the project.

Another concern is that increased traffic would have a negative impact on the environment, particularly noise, air pollution, and congestion. According to the FHWA study, 97% of present road use is by passenger cars, and 95% of all traffic moves at speeds of less than 30 mph. Paving would increase speed and volume, and "smoothing" the switchbacks would encourage larger vehicles.

## Specific Recommendations for the Georgetown segment (Georgetown terminus to Silverdale)

### 1. Georgetown terminus:

If improvements between the Georgetown Reservoir and the summit, of the scope of those presented in either alternative 2 or 3 of the FHWA plans, are carried out, construct a by-pass that would include:

- a. A tunnel located south of the alignment that is currently proposed;
- b. A low bridge over Clear Creek to connect with Loop Drive;
- c. A "T" intersection with Loop Drive; and
- d. Retention of a 2-way option to enter and/or exit Georgetown via Rose Street.

The tunnel terminus alternative has several advantages over other terminus alternatives. It would not impact historic structures. In contrast, the Rose Street terminus would significantly

impact historic structures. The tunnel also would not result in the visible scarring that the Sidehill alternative would have. The T intersection at Loop Drive would reduce the sweeping superstructure of the bridge. The T is also desirable because the seasonal traffic on Loop Drive is heavier than that on Guanella Pass Road (see attached).

## 2. Cross section and turning radii:

Make no major changes in the road cross section and turning radii on Leavenworth Mountain or within the Georgetown segment.

- a. Lessen shoulder width and do not pave shoulders;
- b. Do not pave drainage ditches; and,
- c. Extend the proposed "Georgetown road cross section" at least to Silverdale.

The proposed 3-meter lane widths provide sufficient space for vehicles. Lessening the proposed shoulder width and leaving shoulders unpaved visually constricts the road, thereby reducing speed and maintaining a more natural appearance. Extending the "Georgetown cross section" throughout the Georgetown segment to Silverdale lessens the impact on property owners adjacent to the road beyond the town limits of Georgetown.

## 3. Stone construction:

Utilize stone in the construction of all curbing, walls, and facings.

- a. Use low stone curbing; and
- b. Use walls only in locations where absolutely required for safety purposes.

Low stone curbing would remind drivers of the location of the road edge, would improve drainage and erosion, and would not impede snow-removal efforts.

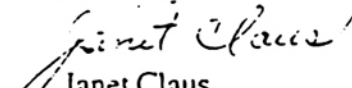
## **General recommendations for all segments**

Do as little as possible to this road while addressing the long term concerns regarding safety, maintenance, and environmental requirements.

Many Georgetown residents have expressed the fear that extensive improvements would create a thoroughfare out of a rural road, thereby negatively affecting water, wildlife, quality of life and the preservation of historic and cultural resources. In its present condition, Guanella Pass Road is winding, narrow and paved only in certain segments. As such, it provides an experience that is uniquely semi-wilderness in character. Traveling the road is still an "adventure," a situation that is at the core of its designation as a Scenic and Historic By-way.

We urge the Board of County Commissioners to consider these recommendations in the further planning of Guanella Pass Road. The Town Board of Selectmen has charged the Georgetown Planning Commission to continue appropriate contact, cooperation, and conversations with the FHWA, Clear Creek County Commissioners, and USFS in order to seek a consensus that would satisfy the needs and desires of the residents of the Town and County concerning improvements to Guanella Pass Road.

Sincerely,

  
Janet Claus  
Police Judge

cc: Mark Taylor, FHWA  
Jim Moe, USFS, Chief Engineer  
Joseph Bell, State Office of Historic Preservation  
Corey Wong, USFS, Clear Creek Ranger District



COLORADO  
HISTORICAL  
SOCIETY

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

October 22, 1997

Mr. Larry D. Henry  
Federal Highway Administration  
P.O. Box 25246  
Denver, Colorado 80225-0246

Re: Colorado Forest Highway (FH) 80, Guanella Pass Road Draft  
Cultural Inventory Report.

Dear Mr. Henry:

Our office has reviewed the presented documentation along with the comments received from the Town of Georgetown, Clear Creek County, and Historic Georgetown.

Our office concurs with the comments from the local organizations on the draft cultural resource report. The study is limited in its scope and scale. The document does not address the broader cultural landscape and how this proposed undertaking will affect this landscape visually, encroachment on identified historic properties, noise, air pollution, lighting, traffic, increased accessibility to historic and archeological sites, etc. The area of potential effects of this undertaking will extend well beyond the 100 feet centerline boundary established in the report. The road improvements will have a dramatic effect on the Georgetown Silver Plume National Historic Landmark District (5CC.3). It is our opinion that the cultural inventory report needs to be broadened to encompass all potential cultural resources that will be impacted by any road improvements.

Listed below are the sites identified by the presented cultural resource report along with our opinions on eligibility:

5CC.861 Needs Data to determine extent and integrity of entire length for wagon road.  
5PA.403 Needs Data to determine extent of subsurface potential  
5PA.41 Needs Data  
5PA.142 Needs Data  
5CC.70 Eligible under Criterion D  
5CC.461.4 Contributes to a potential National Register District  
5CC.178 Eligible under Criteria A and C  
5CC.461.3 Contributes to a potential National Register District  
5CC.3.220 Contributes to a National Historic Landmark District



page 2  
October 22, 1997  
Larry Henry

The report needs to be expanded to encompass all properties to be directly or indirectly impacted by this undertaking. This will assist in identifying all cultural resources to be affected by the project and aid in our future assessment of the effects of the undertaking on this important cultural landscape.

Please include a Summary and Conclusion section of all future reports; also good quality photographs of the cultural resources need to accompany the report. This will assist in our assessment of the resources. Poor quality photocopies of images do not assist in our office's review.

We look forward to reviewing a revised cultural resource report with a broader perspective of the area's cultural resources. This project has the potential of having a dramatic impact on the qualities of significance associated with this cultural landscape.

The assessment of the alternatives and impacts of the proposed undertaking needs to evaluate in depth the visual, audible, environmental, and physical impacts of the road improvements on the cultural resources. This includes the direct effects at the Georgetown terminus and those indirect effects at Silverdale as well as on the valley and the Guanella Pass Historic and Scenic Byway as a whole.

If you have any questions or need clarification, please contact Joseph Bell, our Architectural Services Coordinator, at (303) 866-3035.

Sincerely,

  
James E. Hartmann  
State Historic Preservation Officer

Date: May 12, 1997

To: Interested Parties (see attached preliminary list)

From: Clyde M. Woods

Re: Guanella Pass (Forest Highway 80) Road Improvement Project

Subj: Native American Studies

---

The purpose of this letter is to solicit Native American input for the Guanella Pass (Forest Highway 80) Road Improvement Project (Project). Woods Cultural Research, Inc. (WCRI) has been retained by MK Centennial Engineering, Inc. on behalf of the Federal Highway Administration (FHWA). The Project is coordinated by the FHWA, with the cooperation and participation of the USFS, Colorado Department of Transportation, Park County, and Clear Creek County. The FHWA is analyzing several different alternatives to improve Guanella Pass Road in order to address current and projected future highway safety, operational efficiency, and environmental concerns. The alternatives include various levels of roadway reconstruction, resurfacing, and potential realignments.

Preliminary research indicates that the Project is situated within historic lands of the Ute Tribe, although by about 1750 other tribes such as the Shoshone, Commanche, Arapaho, and Cheyenne also passed through and utilized the area. Considering the high elevations, the Guanella Pass area was probably used by small hunting parties during the relatively short summer season. Supporting archaeological evidence collected to date is scant, however, consisting only of lithic materials (flakes and point fragments). No campsites are evident although there are two probable rockshelters in the general area. The preliminary archaeological evidence does support historic period timber and mining activities, and subsequent recreational use.

Guanella Pass Road is situated within the Pike and Arapaho National forests. As shown on Figure 1, the road extends for 23.6 miles from Grant on State Highway 285 in Park County, Colorado to Georgetown on Interstate Highway 70 in Clear Creek County, Colorado. Guanella Pass Road is also designated as Park County Road 62, Clear Creek County Road 381, and Forest Development Road 118. The road was designated as the Guanella Pass Scenic Byway in 1988.

Guanella Pass Road functions as a scenic byway and rural collector highway between Highway 285 and Interstate 70 and provides access to USFS recreation facilities, a resort, several residences, a Public Service Company Power Plant, the presently inactive Geneva Basin Ski Area, three forest development roads, and one county road. USFS facilities

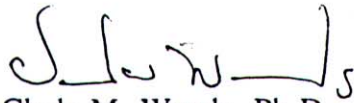
accessed include two picnic areas, five campgrounds, and four trailheads. The road is owned and maintained by Park and Clear Creek counties.

The Native American studies will attempt to identify, document, evaluate, and mitigate potential Project effects to Traditional Cultural Properties (TCPs) and other places of particular sensitivity and concern which may be located along the Project route. This will be accomplished through contacts with tribes, organizations, and individuals; a review of the ethnographic and historic literature; site visits and area reconnaissance of the Project area; and oral history interviews with tribal members and others who may know of Native American cultural activities and sites situated in the Project area or vicinity.

Please review the enclosed project map and the preliminary mailing list for the Native American studies. If you know of others who should be included on this list, please let us know. Maps with additional Project and area detail are available, and meetings can be arranged at your convenience. An attempt will be made to contact you by telephone to discuss the Project and the Native American studies within the next several weeks. In the meantime, if you would like additional information on the Project or the Native American studies, you are encouraged to call Clyde Woods toll-free at (800) 854-9274.

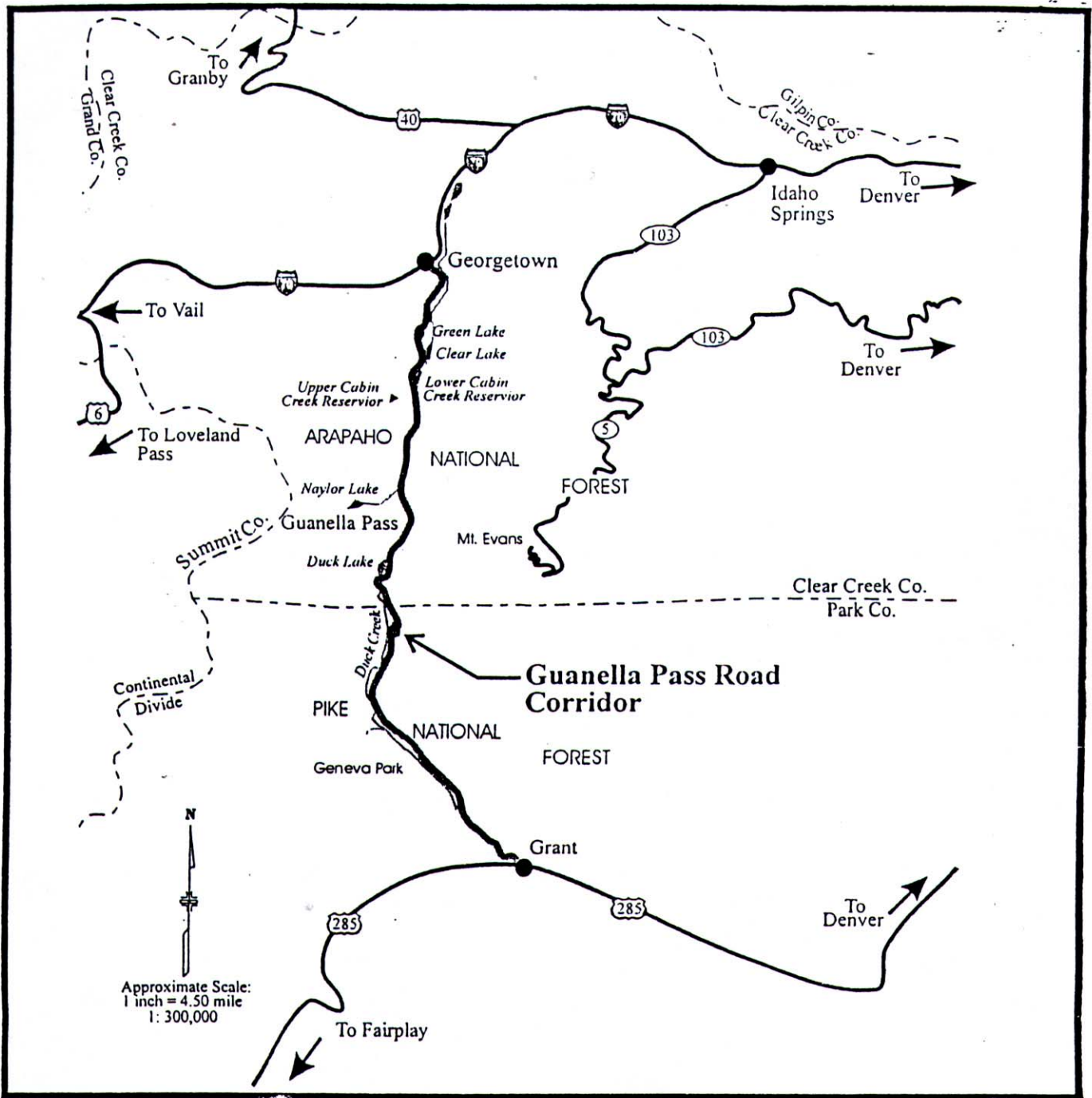
Sincerely,

**Woods Cultural Research, Inc.**



Clyde M. Woods, Ph.D  
Project Anthropologist

Enclosures:           Guanella Pass Road Vicinity Map  
                              Preliminary Mailing List



Approximate Scale:  
 1 inch = 4.50 mile  
 1: 300,000

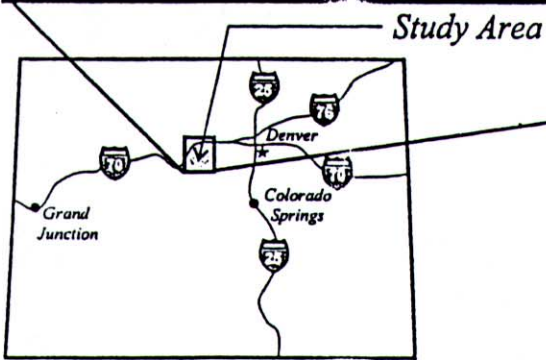


Figure 1  
 Guanella Pass Road Vicinity Map

**GUANELLA PASS** 

**Guanella Pass Road Improvement Project  
Preliminary Native American Studies Mailing List**

Clement Frost, Chairperson  
Southern Ute Tribal Council  
Southern Ute Reservation  
P.O. Box 737  
Ignacio, Colorado 81137

Aldan Naranjo, Historian  
Southern Ute Cultural Department  
Southern Ute Reservation  
P.O. Box 737  
Ignacio, Colorado 81137

Judy Knight-Frank, Chairperson  
Ute Mountain Ute Tribal Council  
Ute Mountain Ute Reservation  
General Delivery  
Towaoc, Colorado 81344

Lynn Hartman  
Tribal Manager  
Ute Mountain Ute Tribe  
General Delivery  
Towaoc, Colorado 81344

Terry Knight  
Spiritual Coordinator  
Ute Mountain Ute Tribe  
P.O. Box 52  
Towaoc, Colorado 81344

Mary Jane Yazzi, Chairperson  
White Mesa Ute Council  
White Mesa Ute  
P.O. Box 340  
Blanding, Utah 84511

Ron Wopsock, Chairperson  
Uintah & Ouray Business Committee  
Uintah & Ouray Reservation  
P.O. Box 190  
Ft. Duchesne, Utah 84026

Betsy Champoose, Director  
Cultural Preservation Office  
Uintah & Ouray Reservation  
P.O. Box 190  
Ft. Duchesne, Utah 84026

John Washakie, Chairperson  
Shoshone Business Council  
Wind River Reservation  
P.O. Box 217  
Fort Washakie, Wyoming 82514

Joyce Posey, Director  
Eastern Shoshone Culture Center  
Wind River Reservation  
P.O. Box 217  
Fort Washakie, Wyoming 82514

Wallace Coffey, Chairman  
Comanche Tribal Business Council  
Comanche Tribe  
H.C. 32 P.O. Box 1720  
Lawton, Oklahoma 73502

✓ Phyllis Attocknie, Director  
Cultural Preservation Office  
Comanche Tribe  
H.C. 32 P.O. Box 1720  
Lawton, Oklahoma 73502

Richard Brannan, Chairperson  
Northern Arapaho Business Council  
Wind River Reservation  
P.O. Box 217  
Fort Washakie, Wyoming 82514

Francis Brown, Director  
Northern Arapaho Cultural Commission  
Wind River Reservation  
P.O. Box 217  
Fort Washakie, Wyoming 82514

William Walks Along, President  
Northern Cheyenne Tribal Council  
Northern Cheyenne Reservation  
P.O. Box 128  
Lame Deer, Montana 59043

Butch Sootkis, Director  
Northern Cheyenne Cultural Committee  
Northern Cheyenne Reservation  
P.O. Box 128  
Lame Deer, Montana 59043

DEPARTMENT OF TRANSPORTATION  
Federal Highway Administration

Environmental Impact Statement: Clear Creek and Park Counties,  
Colorado

AGENCY: Federal Highway Administration (FHWA), DOT.

ACTION: Notice of intent.

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SUMMARY: The FHWA is issuing this notice to advise the public that an environmental impact statement (EIS) will be prepared for a proposed highway project in Clear Creek and Park Counties, Colorado.

FOR FURTHER INFORMATION CONTACT: W.R. Bird, Environmental Planning Engineer, Federal Highway Administration, P.O. Box 25246, Denver, Colorado 80225-0246, telephone 303-969-5909.

SUPPLEMENTARY INFORMATION: The FHWA, in cooperation with Pike and Arapaho National Forests, and the Colorado Department of Transportation, will prepare an environmental impact statement (EIS) on a proposal to improve Colorado Forest Highway 80 (FH 80), known as Guanella Pass Road. Guanella Pass Road is a Scenic Byway that extends from Grant to Georgetown, a distance of 23.5 miles. The proposed improvements include resurfacing the paved portion of the road, paving the sections of the road which are currently gravel, widening (to achieve a consistent two-lane cross section width), and incorporating roadside enhancements in conjunction with the Scenic Byway.

Alternatives under consideration include (1) the 'no build' alternative; (2) improvement of the existing roadway to appropriate American Association of State Highway and Transportation Officials' design criteria; (3) lesser improvements to the existing facility; and (4) other alternatives, including realignments that may be developed during the scoping process, will also be evaluated.

Notices describing the proposed action and soliciting comments will be sent to appropriate Federal, State, and local agencies, and to private organizations and citizens who have expressed interest in this proposal. Interagency meetings, public scoping meetings and public hearing will be held in the project area and in other appropriate areas. Information on the time and place of public scoping meetings and public hearings will be provided in the local news media. The draft EIS will be available for public and agency review and comment prior to the hearings.

To ensure that the full range of issues related to the proposed action are addressed and all significant issues are identified, comments and suggestions are invited from all interested parties. Comments and questions concerning the proposed action should be directed to the address provided above. (Catalog of Federal Domestic Assistance Program Number 20.205, Highway Research, Planning and Construction. The regulations implementing Executive Order 12372 regarding intergovernmental consultation on Federal programs and activities apply to this program.)

Issued on: March 4, 1997.  
Larry D. Henry,  
Project Development Engineer, FHWA, Denver, CO.  
[FR Doc. 97-6058 Filed 3-10-97; 8:45 am]  
BILLING CODE 4910-22-M

# The Town of Georgetown

P.O. Box 426

Local: 569-2555

Georgetown, Colorado 80444

Denver: 623-6882

Clear Creek County Commissioners  
Box 2000  
Georgetown, CO 80444

February 11, 1997

Dear Commissioners,

The Town of Georgetown, through its Planning Commission and Board of Selectmen, has reviewed the alternatives proposed by the FHWA for changes to the Guanella Pass road. We appreciate the cooperation of the design team and the FHWA officials in making information available to us, and for their attention to input from local citizens. Obviously, any changes at the Georgetown terminus of the road will have a substantial impact on the town.

## Background

The Guanella Pass Road currently serves as access for Cabin Creek employees, local residents, workers involved in the maintenance of dams, and locals and tourists who participate in forest activities. These activities are multi-seasonal and include hiking, camping, fishing, 4-wheeling, mountain biking, cross-country skiing, snowshoeing, and hunting. The road traverses the watershed that provides the Georgetown water supply. According to the EIS traffic studies, 97 percent of the road use is by passenger cars, and 95 percent of all traffic moves at speeds less than 30 mph. The primary access is from the Georgetown terminus, and a great majority of the cars drive up to a certain point and return down the same way. In its present condition, which is winding, narrow and paved only in certain segments, Guanella Pass Road provides an experience that is uniquely semi-wilderness and truly rural road in character. Along many segments, the forest abuts the road rather than lies beyond it. Traveling the road is still and "adventure", a situation that is at the core of its designation as a Scenic and Historic By-way.

## Concerns

The Town of Georgetown's primary goal is to preserve the park-like character of the road. The Board of Selectmen believes that under the proposed development the existing purpose of the road and experience of traveling it would change dramatically. We are deeply concerned that the visual impact will be negative on the face of Leavenworth Mountain, which is within the Georgetown Silver Plume National Historic Landmark District, because of the substantial widening, cutting and filling that is proposed. Mitigation measures will not be able to hide the scars on a mountain face that is visible throughout Georgetown. In addition, the construction would negatively impact historic resources, including buildings and cultural sites, that are in the vicinity.

Another concern is that increased traffic would have negative impacts on the environment, particularly noise, air pollution and congestion. Road safety is also a consideration. Even without barriers, the current road does not have a high accident rate. Any "improvement" that results in increased width and amount of paving is likely to increase the volume and speed of traffic and could actually result in increased danger to travelers.

Within and beyond the Landmark District, the Town wants assurance that any road improvements that are made would not adversely affect Georgetown's water supply. Unfortunately, the results of the water-quality studies were not available in time to enable an assessment of this aspect of the project.

## Recommendations

In consideration of the concerns cited above, the Board of Selectmen of the Town of Georgetown recommends the following:

1. *Seek an alternative designation to the Guanella Pass Road that would allow a variance to the road-construction standards that are presently included in the design.*

Re-designation of the road type from "Collector Road" to, for example, "Park Road" would allow more flexibility in road-design features, thereby allowing retention of the park-like character of the roadway.

2. *Make no major changes to the road cross section and turning radii on Leavenworth Mountain.*

This action would retain the aesthetics of the face of Leavenworth Mountain, a major visual resource to Georgetown and the Historic Landmark District. Maintaining the current footprint would also a) keep speeds down; b) discourage the use of over-sized vehicles; c) discourage the use of the road as an arterial between Georgetown and Grant; and d) avoid the potential of expensive litigation on the part of Clear Creek County to acquire rights-of way.

3. *Make the needed improvements to road drainage through the construction of drainage cuts, emplacement of stone curbing, and other appropriate measures.*

Improved drainage along the roadway would reduce the potential for pollution of the Georgetown water supply, reduce erosion, and, thereby, reduce road maintenance costs for the county.

4. *Utilize native stone in the construction of all curbing, walls and facings.*

In the context of the Guanella Pass Road, steel guard rails are not needed and are not aesthetically pleasing. In contrast, low stone curbing, rock walls and rock facings would enhance the park-like appearance of the roadway. In addition, stone curbing would serve to remind drivers of the location of the roads edge , would help to improve the drainage and reduce erosion, and would not impede snow -removal efforts.

5. *If paving to the summit of Guanella Pass is carried out, construct a Georgetown by-pass that would include:*

- a. A tunnel located slightly to the south of the alignment that is presently proposed;*
- b. A low bridge over Clear Creek nearer to the Loop than is presently proposed;*
- c. a "T" intersection with the Loop Road*

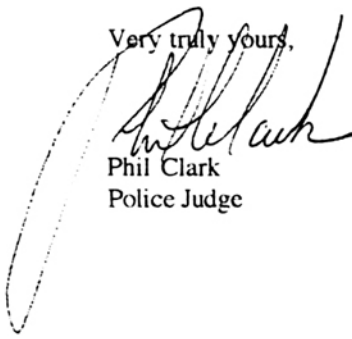
If paving is done, traffic is expected to increase more than if it is not done, and a by-pass route would be needed to accommodate the long term increase in traffic. The conditions (a,b, and c) stated above for this bypass are recommended to minimize the impacts on local residents and to minimize the visual impacts in the vicinity of the Loop Railroad.

6. *If paving if not carried out to the summit, omit the by-pass from the design.*

By not paving, the predicted traffic increase would not be great and the the Town could continue to accommodate the flow of traffic up Rose street to the Guanella Pass Road.

The Board of Selectmen believes that if the above recommendations are carried out the park-like character of the Guanella Pass Road would be retained to the benefit of residents and visitors alike. We earnestly hope that the Board of County Commissioners will consider these recommendations in the further planning of the Guanella Pass Road.

Very truly yours,



Phil Clark  
Police Judge

cc: William Bird, FHWA  
Mark Taylor, FHWA  
Barry Schultz, MK Centennial  
Michael Dotson, CDOT Planning



**Upper Arkansas and South Platte Project  
of the Southern Rockies Ecosystem Project  
from the headwaters to the plains**

---

September 4, 1996

Mr. Bill Bird  
Environmental Engineer  
Federal Highway Administration  
P.O. Box 25246  
Denver CO 80225

Dear Mr. Bird,

The Upper Arkansas and South Platte Project (UASPP) of the Southern Rockies Ecosystem Project (SREP) submits these comments for inclusion in the planning process conducted by the Federal Highway Administration for the Guanella Pass Scenic Byway road.

We attended the open house in Shawnee on July 10, and, after some delay, received additional materials from Centennial Engineering. Although I have extensive experience in the area, the road from Grant to Georgetown was driven one more time, and the proposed Duck Creek alignment was investigated in detail by hiking the survey stakes.

SREP and Colorado Environmental Coalition (CEC) have also submitted a "Citizens' Proposal" for the protection of habitat and biological diversity on the Guanella Pass corridor lands administered by the United States Forest Service. This document focused primarily on the south side of the pass. In addition, we support the Citizens Management Alternative, which includes the north side of the pass, submitted by CEC and SREP for the Arapaho Roosevelt Forest plan revision.

Our primary concern in both the proposed highway improvements and the corridor management plan is to maintain the quality of habitats which support native species of the area. We believe that preserving the landscape is integral to the preservation of native biodiversity, enhances the recreational qualities for those seeking a primitive back-country experience and best serves the long-term future of Front Range public lands. To that end, we are opposed to any actions which will increase high-speed traffic, result in more extensive developed recreation and generally alter the back-country, rustic character of this exemplary Scenic Byway.

## **I. Summary**

In summary, we support reconstruction to the existing type of road surface on the current alignments and widths. We support appropriate environmentally benign techniques to reduce erosion and stream siltation, improve turnouts and stabilize slopes. All improvements should be conducted with primary attention to preserving habitat, retaining the primitive character of the byway and preventing damage during construction and in the future to the fragile slopes. We do not support any measures which will increase the potential of increased higher speed traffic.

---

Jean C. Smith, 1308 St. Paul, Denver CO 80206 (303) 388-3378 Email [jean.smith@rmc.sierraclub.org](mailto:jean.smith@rmc.sierraclub.org)  
Coordinator

We oppose the proposed alignments, with the exception of the Georgetown section, as they are currently constituted. They represent an excessive intrusion into prime wildlife habitat and mature forest stands which are now roadless.

Our detailed comments in support of this position follows.

## **II. Road Surface And Improvements**

Of the four alternatives presented to the public at Shawnee in July, only Alternative 3 -"reconstruct the roadway to its existing surface type"- would be potentially acceptable to our organization. We reserve the right to comment more extensively when explicit details of the alternative are available. Our potential endorsement of Alternative 3 is contingent on retaining the existing alignments (see following section) and mitigation of environmental and safety issues undertaken in keeping with maximum value being placed on retention of a more primitive roadway through important wildlife habitat and backcountry recreation areas.

Specific recommendations are:

1. As indicated in Alternative 3, reconstruct the roadway to its existing type of surface.
2. Dirt sections should be surfaced with indigenous, dense aggregate (gravel). The current dirt surfaces contribute to excessive sedimentation and dust during high traffic days.
3. Reconstruction should be limited to the current alignments. A possible exception is the paved section through Geneva Park. This straight stretch promotes high speed traffic, a danger to campers using the campgrounds at either end of the Park and to wildlife which crosses between Mt. Evans Wilderness and the Bear Creek/Buno Creek/Geneva Creek riparian and wetlands areas. I understand there is a recommendation that moderate curves and gravel surface be re-introduced along this stretch to slow traffic. We would be interested in seeing details of this suggestion.

In addition, the Georgetown end should be routed to avoid heavy traffic through the town.

4. Road widths and switchback radii should remain as currently constructed. Until we see detailed proposals on precisely where widening to 24 feet is recommended and/or switch backs modified, we are not willing to endorse widening the road. The road should be designed to accommodate only passenger cars, small trucks and campers and small towed vehicles. Oversized motor homes, tour buses and large delivery trucks are inappropriate for this road.
5. Unstable cut slopes should be stabilized and revegetated with indigenous plants to reduce erosion and maintenance. Retaining walls should be rustic in appearance.
6. Installation of ditches and culverts to channel runoff and prevent excessive erosion from the road surface is recommended. Baffles and filers to inhibit fine particles and reduce or channel water flow should be installed where appropriate. Bridges should replace culverts to facilitate wildlife use of riparian areas as they move across the valley.
7. Where the road borders riparian areas, outboard berms should be installed to prevent excessive erosion and sidecast into the streams.
8. Adequate turnouts with rustic retaining walls, for safety and to prevent off-road driving, should be installed at regular intervals.

### III. Road Alignments

For the most part, we believe that the safety and maintenance issues of the current road alignment should be dealt with by improving the stability of slopes, addition of culverts, ditches and retaining walls and construction of good turnouts.

The exception to this is a solution for heavy traffic through Georgetown.

The alignments as depicted on July 10 would directly destroy or render ineffective prime wildlife habitat on both sides of the pass. This is a heavy price to contemplate for the projected increase in safety and reduction of maintenance for a road which by its very nature is not a high-speed highway.

The following comments primarily address the Duck Creek alignment since this is the area we know best. Other briefer comments are offered for the alignments north of Guanella Pass.

#### A. The Duck Creek alignment alternative is opposed

##### Overview:

- The proposed realignment relocates the road from its current alignment between the lower switchback leaving Geneva Park (T6S, R74W, NE quarter Section 1) and just south of the Alpendorf Road (T5S, R75W, NE quarter of Section 36). The new alignment is located down the slope approximately halfway between the current road and Duck Creek.

Immediately to the east of the current road is the boundary of the 74,401 acre Mt. Evans Wilderness. Just to the west of Duck Creek is the boundary of Square Top RARE II area which is proposed by conservationists as a core reserve with Wilderness designation. The biological values which led to this recommendation are detailed in A *Citizens' Proposal for Protecting Biodiversity and Ecosystem Health on the Guanella Scenic Byway Corridor* which was submitted to the USFS in September 1995.

The general area along the current and proposed road is an integral part of the larger landscape which runs from the Mt. Evans complex west into the Duck/Geneva Creek valley and continues to the Continental Divide. The Duck Creek valley is a comparatively lower elevation forested habitat which provides both thermal and hiding cover for deer, elk, bighorn sheep, small mammals and many bird species. Duck Creek, in contrast to Geneva Creek which has been polluted by mine runoff, harbors a trout fishery commensurate with its size.

- On the south end, the proposed alignment follows the old road (closed by the Forest Service) north along Duck Creek for approximately .3 mile where it makes a switchback of .15 miles south and then north on the side slope, continuing in a northerly direction to the Geneva ski basin.

This proposed new alignment goes through mature lodgepole pine (class size 8 & 9) and Englemann spruce (class size 9) which are intermixed with occasional Douglas fir, bristlecone pine and limber pine. The slope is not as steep as the current road, there are a number of rock outcrops, and the alignment is heavily forested (contrary to the annotation on Centennial's map as 'scattered trees.') Some trees were cut years ago as evidenced by stumps, but the characteristics of the area include many down, well decayed trees; a number of standing snags; primarily closed canopy; some understory of small trees and shrubs, and substantial duff on the floor. A number of individual trees are old - one lodgepole pine was 17" diameter (DBH) and limber/bristlecone were 20-30 feet tall and larger than 12" DBH. While this may not be called an old growth forest, it certainly is a valuable mature forest.

- On the north end, the proposed alignment emerges from the forest near the old Geneva ski buildings. The area is a flat, gravelly, sparsely vegetated valley, with adjacent slopes to the west where the old ski runs are slowly revegetating and similar forest on the east. Here the proposed alignment angles gradually upslope toward the north. It follows a ridge and then switchbacks across a steep slope above Duck Creek, connecting to the present highway just south of the Alpendorf Road.

Along the edge of Geneva Basin valley floor the alignment intrudes into the trees - Englemann spruce with some limber and bristlecone pine - with only a small elevation gain until the slope steepens at the north end. In the valley the east-west gradient is flat; on the north end it appears to be similar to the current road slopes.

- Wildlife observed (Aug. 18 from 10 :00 am until 2:00 pm) included common species such as red-shafted flickers, white-headed race of gray jays; dark-eyed juncos; broad-tailed humming birds, mountain chickadees; pine squirrels, chipmunks; porcupine damaged bark; deer sign, bighorn sheep and brook trout.

**Documentation:** The above descriptions are taken from USFS cover type/size class maps (1995), the alignment map furnished by Centennial Engineering, USGS topo Mt. Evans quadrangle, the Citizens' *Alternative* and personal observation on August 18 while hiking approximately 90% of the alignment.

### **Biological Values of the Duck Creek drainage.**

The primary biological resources in the Duck Creek drainage are mature, closed canopy/multi-story forest, relatively healthy aquatic/riparian areas, and adjacent roadless/Wilderness areas.

Mature forests are especially valuable for general biodiversity and habitat for certain cavity dwellers. The closed canopy in Duck Creek, with some multi-story effect, provide general thermal and hiding cover, protection from harsh winter weather, may be a movement corridor between summer elk/bighorn range on the tundra to their calving/lambing grounds south of Burning Bear Creek. In addition, the adjacent water and/or openings enhance the area as potential Northern goshawk habitat.

Because Geneva Creek to the south is heavily polluted, thus sterile for fish, the fishery in Duck Creek is of added importance. In addition, the creek and associated riparian zone provide excellent habitat for large and small animals, especially in the forested areas above and below the Geneva ski basin.

Duck Creek drainage is an important connecting habitat corridor running from the Mt. Evans Wilderness on the east to the Square Top roadless area on the west. Although fragmented by the current Guanella Pass Road, with its heavy seasonal traffic, this area should be considered as one landscape.

### **Rationale for opposition to this realignment**

#### **1. Fragmentation of mature forest**

Cutting a new road through mature stands of mixed confers (Englemann spruce, lodgepole pine, Douglas fir, bristle cone pine and limber pine) unnecessarily fragments a relative unimpacted stretch of forest adjacent to Duck Creek and the proposed Square Top core reserve/wilderness area.

The proposed alignment through the Geneva Ski Basin appears to have considered only the engineer's ideal gradient for the road, with no reference to the surrounding forest. In proposing to enter the forest along the edge, many mature trees are sacrificed for a small moderation of the gradient.

## **2. Impact on Duck Creek**

The south end of the alignment is extremely close to Duck Creek which will only exacerbate siltation into the drainage. The best remediation during construction and for years to come cannot hope to improve on nature's heavily forested slopes for preventing erosion and siltation. The old road cut here, perhaps 4-5 feet wide, is slowly revegetating and should not be reopened.

The near north end through Geneva Basin again approaches Duck Creek, and the switchback at the north end is on a steep ridge directly above Duck Creek.

The general alignment throughout places the new road approximately halfway between the old road and Duck Creek. It therefore brings the source of potential siltation, erosion and runoff much closer to the creek. If construction methods and design options can prevent this problem on a new road, they should be applied to the current alignment.

## **3. Displacement of animal species from the lower elevation drainages of Duck Creek.**

If the new alignment is carried out, it will effectively displace animals which currently use the east side-slope and riparian area of Duck Creek. In addition to cutting the east slope into two pieces, the traffic, general disturbance and increased access to Duck Creek will discourage animals from seeking shelter in the forest and water from the creek. This factor is especially important in winter when animals need these lower elevations which have more thermal cover as well as access to water.

Of equal concern is the destruction of direct habitat for U. S. Forest Region 2 sensitive species dependent on cavities such as are found in mature stands at these elevations. In addition, northern goshawk (Region 2 sensitive species) inhabit the corridor, as reported by the various raptor studies underway and documented anecdotally by two wildlife biologists.

## **4. Future impact on proposed wildlife habitat core reserve and/or wilderness.**

The area immediately to the west of Duck Creek and Geneva Creek has been proposed by conservationists for habitat reserves with potential designation as Wilderness. This proposal was made on the basis of the large unaltered landscape in the Square Top/Burning Bear RARE II roadless areas; the presence of significant populations of deer, elk, bighorn sheep, the occurrences of sensitive species such as goshawks among others, and the potential to enhance similar populations and provide complementary habitat to that of Mt. Evans Wilderness.

Burning Bear and Square Top are among the largest front range areas left which are mostly undisturbed by human use and are an integral part of the larger landscape which will support sensitive species for hundreds of years to come. It is therefore very shortsighted to place the Duck Creek section adjacent to the proposed wilderness. Since the current road cut already impacts Mt. Evans, we should not multiply that impact by further fragmenting the area..

## **5. Visual impacts**

The Department of Transportation Act requires preservation where possible of "natural beauty." Inserting a new road into what is now a heavily forested area, no matter how sensitively constructed, destroys a large part of that natural beauty. Furthermore, the old road cuts will always remain a scar on the hillside. No plans for rehabilitation of old road cuts were suggested at the Shawnee meeting, even in the most abstract form, and in fact at least one participant was given the impression that this was not even a relevant question. Once the slope has been cut, it is

very difficult to undo. At best it will take many years and extensive revegetating to begin to obliterate the scar.

## **6. Safety and maintenance alternatives**

The rationale given by Centennial staff at the open house for the proposed Duck Creek alignment was to increase the safety and decrease the maintenance occasioned by the current road. Both safety and maintenance issues were described as related to the steep slope where the current road is located. It is our opinion that these issues can be addressed by adequate rebuilding of the present road, whether graveled or paved. Physical barriers and turn outs, stabilization of the embankments both above and below the road, adequate culverts and drainage installations are needed. With these improvements, this part of the road is no less safe than a number of other sections which are not proposed for realignments, such as the switchbacks above Georgetown.

### **Summary**

We are strongly opposed to the Duck Creek proposed alignment primarily on the basis of fragmentation of forested areas, adverse impact on Duck Creek, displacement of animals and compromise of the integrity of potential wilderness areas. This small valley cannot be separated from its larger landscape which is prime wildlife habitat and the very basis for which the area was designated a scenic byway in the first place.

## **B The Cabin Creek alignment alternative is opposed.**

### **Overview**

The proposal suggests moving the current road from the west side to the east side of Cabin Creek reservoir. In either case, the road runs adjacent to the reservoir. On the current alignment, the south two-thirds of the steep slope above the road is heavily vegetated and appears stable. At the north end, there is a large area that is clearly unstable with various retaining devices and a large cut into the side slope. We presume the new alignment was recommended to avoid this unstable area. However, the south two-thirds of the east side is steep and sparsely vegetated, with no trees and a number of small slide tracks.

### **Rationale for opposition to this realignment**

- 1. The proposed alternative would virtually abut the Mt. Evans Wilderness boundary adding to the impact on wilderness lands.**
- 2. Substituting one unstable slope appears to give little, if any benefit.**
- 3. Cutting a new road will increase siltation into the reservoir**
- 4. Cutting a new road will destroy habitat on the east side of the reservoir and displace species that move to the water from the wilderness area.**
- 5. Detrimental visual impacts will be increased since there will be a direct view of the old road cut and eroded area.**

## **C. Naylor Lake and Green Lake alternatives are not endorsed.**

The reason for these alignments given to me at the Shawnee meeting was to increase safety, reduce maintenance and avoid avalanche chutes.

I have not followed these proposed alignments on the ground, but it appears that they both will require major cuts into previously unroaded forest. This destruction of habitat with resulting impact on wildlife and recreational activities is not worth the perceived improvement in the highway. Again, we cite the obvious - this is a backcountry road, and should remain that way.

We look forward to any scheduled field trips and public meetings, and ask to be kept informed of decisions on this project.

Sincerely,

  
Jean C. Smith  
Coordinator

cc: Rocky Smith, Colorado Environmental Coalition  
Jim Cuthbertson, Guanella Pass Scenic Byway planning team, USFS  
Pam DeVore S. Platte Ranger District, USFS



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

ES/CO:DOT:FWHA:Guanelia Pass  
Mail Stop 65412

Ecological Services  
Colorado Field Office  
730 Simms Street, Suite 290  
Golden, Colorado 80401

DEC 07 1995

Mr. Larry C. Smith  
U.S. Department of Transportation  
Federal Highway Administration  
P.O. Box 25246  
Denver, Colorado 80225-0246

Dear Mr. Smith:

This responds to your May 11, 1995, letter regarding possible environmental effects of Colorado Forest Highway 80, Guanelia Pass Road, located in Park County and Clear Creek County, Colorado.

The U.S. Fish and Wildlife Service (Service), due to staffing and budgetary constraints, is unable to participate in this project. We would, however, like to be kept informed throughout the process.

If you have not already done so, we recommend that you contact the Colorado Division of Wildlife to address any concerns it may have with fish and wildlife species for the State of Colorado. The contact person for this area of the State is Dave Weber at (303) 291-7231.

If the Service can be of further assistance, contact Clay Ronish of this office at (303) 231-5280.

Sincerely,

LeRoy W. Carlson  
Colorado Field Supervisor

cc: CDOW, Denver, CO (Attn. Dave Weber)  
CDOW, Colo. Springs (Attn. Bruce Goforth)  
Reading file  
Project file

c:\wpdocs\renee\dotna.ltr





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VIII

999 18th STREET - SUITE 500  
DENVER, COLORADO 80202-2466

JUN 15 1995

REF: 8WM-EA

Mr. Bill Bird, Environment, HPD-16  
U.S. Department of Transportation  
Federal Highway Administration  
555 Zang Street  
P.O. Box 25246  
Denver, CO 80225-0246

RE: Guanella Pass Road, Colorado  
Forest Highway 80

Dear Mr. Bird:

Thank you for your May 11, 1995 letter to the U.S. EPA, Region VIII requesting cooperating agency status for development of the Guanella Pass Road Environmental Impact Statement. The Air Branch, Wetlands Protection Section, and the Environmental Assessment Branch have all reviewed your request.

The EPA feels that we can provide whatever service you may require through regular protocols. There does not seem to be a specific product that the FHA is asking of the EPA as a cooperating agency, such as modeling or site investigation with formal report. We look forward to assisting in review of National Environmental Policy Act (NEPA) documents in accordance with our responsibilities under NEPA and the Clean Air Act. We could also participate in field reviews to help resolve issues and concerns such as wetland impacts, disturbance to mine tailings, etc.

Please send NEPA related information or inquiries to Bill Geise, Environmental Assessment Branch Chief at the above address. Phone calls can be directed to Paul Momper of my staff at (303) 293-1695.

Sincerely,

A handwritten signature in cursive script, appearing to read "Bill Geise".

J. William Geise, Jr., Acting Chief  
Environmental Assessment Branch  
Water Management Division



United States  
Department of  
Agriculture

Forest  
Service

Rocky  
Mountain  
Region

Box 25127  
Lakewood, CO 80225-0127  
Delivery: 740 Simms St.  
Golden, CO 80401

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File Code: 7740

Date: JUN 02 1995

LARRY C. SMITH P.E.  
DIVISION ENGINEER  
FHWA - CENTRAL FEDERAL LANDS HIGHWAY DIVISION  
P.O. BOX 25246  
DENVER, CO 80225-0246

RE: Colorado FH 80, Guanella Pass Road (ref. your ltr of 5/11/95)

Dear Mr. Smith:

With regard to your letter requesting our participation as a cooperating agency in development of the Guanella Pass project, the Forest Service agrees to be a cooperating agency on this project.

Mr. Dana Bardsley of the Arapaho/Roosevelt National Forest will continue to serve as our representative for project development activities, including the SEE Study Team.

If you have any questions, please contact Mr. Bill Cassells, Transportation Engineer, at 303-275-5198.

Very truly yours,

Wm. J. GOURNAY  
Director of Engineering

Enclosures

cc:  
Arapaho/Roosevelt NF - B. Lisowsky  
Arapaho/Roosevelt NF - D. Bardsley

BC:km



Caring for the Land and Serving the People



REPLY TO  
ATTENTION OF

DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS, OMAHA DISTRICT  
215 NORTH 17TH STREET  
OMAHA, NEBRASKA 68102-4978

May 26, 1995



Planning Division

Mr. Bill Bird  
U.S. Department of Transportation  
Federal Highway Administration  
Environmental HPD-16  
555 Zang Street  
P.O. Box 25246  
Denver, Colorado 80225-0246

Dear Mr. Bird:

This is in regard to the Colorado Forest Highway (FH) 80, Guanella Pass Road project Environmental Impact Statement (EIS). Thank you for your letter of request dated May 11, 1995, requesting our involvement. The Corps appreciates the opportunity to be a cooperating agency in the NEPA process for the proposed project.

Section 404 of the Clean Water Act requires selection of the least environmentally damaging practicable alternative. We are therefore requesting that your agency involve the Corps of Engineers as early as possible in the scoping and alternative selection process.

Since the Guanella Pass Road project activities may involve the placement of fill materials into the waters of the United States including wetlands, those wetlands which would be impacted should be inventoried and delineated as to type and acreage.

Your point of contact for any Section 404 permit questions and issues, will continue to be Tim Carey, Tri Lakes Project Office, U.S. Army Corps of Engineers, 9307 Colorado State Hwy. #121, Littleton, Colorado 80123-6901. Your point of contact regarding the EIS will be Gail Campos, U.S. Army Corps of Engineers, Attention: CEMRO-PD-M, 215 North 17th Street, Omaha, Nebraska 68102-4978.

Sincerely,

*Candace Thomas*  
for Richard D. Gorton  
Chief, Environmental  
Analysis Branch  
Planning Division

May 25, 1995

I received a telephone call from Mr. Dave Webber of the Colorado Division of Wildlife. He stated, in response to our letter requesting the Division to be a cooperating agency, that the Division of Wildlife would be a cooperating agency and that he would be the official representative for that effort.

Address correspondence to:

Mr. Dave Webber  
Colorado Division of Wildlife  
6060 Broadway  
Denver, Colorado 80216

Telephone: 291-7231  
FAX: 291-7371

William R. Bird

# STATE OF COLORADO

DEPARTMENT OF TRANSPORTATION



Region 1  
18500 East Colfax  
Aurora, Colorado 80011  
(303)757-9371

DATE: May 25, 1995

TO: Mr. Larry C. Smith, Division Engineer  
Federal Highway Administration  
Central Federal Lands Highway Division

555 Zang Street  
P.O. Box 25246  
Denver, Colorado 80225-0246

FROM: John M. Unbewust, Regional Transportation Director

SUBJECT: COLORADO FOREST HIGHWAY (FH 80), GUANELLA PASS ROAD  
(REFERENCE HPD-16).

Dear Mr. Smith,

In response to your request, this shall serve as formal notice that the Colorado Department of Transportation (CDOT), Region I, will participate as a "cooperating agency", in the preparation of an environmental impact statement (EIS) for FH 80.

CDOT Region I will provide support data and will review the draft and final EIS documents, as may be requested by FHWA.

Our Regional Planner, Mr. Michael Dotson, has been designated as our representative to the SEE Study Team. You may contact him directly at the above address, by telephone at (303) 757-9110, or by FAX at (303) 757-9746.

The Department appreciates the opportunity to participate in this complex environmental and transportation planning issue.

Sincerely,

  
John M. Unbewust

JMU:mbd  
CC: Atencio, Tasset

May 11, 1995

In Reply Refer To:  
HPD-16

Mr. William J. Gournay  
Director of Engineering  
Forest Service, Region 2  
P.O. Box 25127  
Denver, CO 80225

Dear Mr. Gournay:

The Federal Highway Administration (FHWA), Central Federal Lands Highway Division, in cooperation with the Forest Service, the Colorado Department of Transportation, and Clear Creek and Park Counties, is proposing to improve Colorado Forest Highway (FH) 80, Guanella Pass Road. Colorado FH 80 starts at the junction with U.S. Highway 285 at Grant in Park County and proceeds in a northerly direction over Guanella Pass to the southern edge of the town of Georgetown in Clear Creek County. Guanella Pass Road is a 23.5-mile-long Scenic Byway. The southerly 13.3 miles of the highway are within the Pike National Forest, South Platte Ranger District; the next 7.7 miles are in the Arapaho National Forest, Clear Creek Ranger District; and the northerly 2.7 miles are outside the National Forest boundary.

The route closely follows the Clear Creek and Geneva Creek drainages. There are numerous sensitive species which may be found in the project area. Improvement of this route is likely to have an effect on Georgetown's National Register Historic Landmark District. Population growth in Colorado, close proximity to the Denver area, and Scenic Byway designation could increase usage of this route. Also, the public has expressed concern for the potential environmental effects of this roadway project.

The FHWA, as the lead agency, will prepare an Environmental Impact Statement (EIS) for the proposed highway project following the Council on Environmental Quality's (CEQ) "Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (NEPA)" of November 29, 1978, 40 CFR, Parts 1500-1508. In accordance with 23 CFR 771, the FHWA is requesting that your agency become a cooperating agency in the development of this project.

We are also requesting cooperating agency status from the following agencies: the Environmental Protection Agency; the Fish and Wildlife Service; the U.S. Army, Corps of Engineers; the Colorado Division of Wildlife; and the Colorado Department of Transportation.

The views of cooperating agencies will be sought through all stages of the development of the EIS. This coordination is intended to preclude any subsequent and duplicative reviews by cooperating agencies. This coordination will also aid in identifying all reasonable alternatives; Social, Economic,

and Environmental (SEE) impacts; and measures to minimize adverse impacts which may result from this highway improvement.

Enclosed is a copy of the FHWA's "Guidance on Cooperating Agencies," which outlines the responsibilities of the FHWA (as lead agency) and of cooperating agencies. More project specific responsibilities may have to be worked out during the project's scoping process.

Cooperating agencies are being asked to designate representatives to the SEE Study Team. SEE Team members provide guidance throughout project development, representing their agency and serving as a single point of contact for their agency.

We look forward to your response by May 31. If you have any questions or need additional information, you may call Mr. Bill Bird, Environmental Planning Engineer, at 303-969-5909 or write to the above address (Attention: Environment, HPD-16).

Sincerely yours,

LARRY D. HENRY

Larry C. Smith, P.E.  
Division Engineer

Enclosure

Identical letters to:

Mr. John Unbewust  
Regional Director  
Colorado State Department of  
Transportation  
18500 East Colfax Avenue  
Aurora, CO 80011

Mr. Tim Carey  
Project Manager  
U.S. Army, Corps of Engineers  
9307 State Highway 121  
Littleton, CO 80123-6901

Mr. LeRoy W. Carlson  
Colorado State Supervisor  
Fish and Wildlife Service  
730 Simms Street, Suite 290  
Golden, CO 80401

Mr. Perry Olson  
Director  
Colorado Division of Wildlife  
6060 Broadway  
Denver, CO 80216

Mr. James Scherer  
Administrator, Region 8  
Environmental Protection Agency  
999 - 18th Street, Suite 500  
Denver, CO 80202



# PARK COUNTY ROAD AND BRIDGE DEPT.

P.O. Box 147  
FAIRPLAY, COLO. 80440  
719-836-2771 • 303-838-7509 • 719-689-2555

March 13, 1995

To Whom It May Concern:

County Road #62, also known as Guanella Pass Road, has sections of gravel, as well as very dated pavement. According to the area foreman, the pavement was constructed in approximately 1971. The road, as a whole, is on a regular maintenance schedule.

There is approximately five miles of County Road #62 that is constructed with a gravel surface. Currently, this gravel section is maintained every ten days. However, due to severe washboarding, it should be maintained twice a week. One machine requires two days to completely maintain this five mile distance. Consequently, the cost to operate a machine is \$56.57 per hour. Therefore, the total cost to maintain this five mile section of gravel, two days in the ten day rotation, is \$905.12. This will total approximately \$21,722.88 per year to do the minimum maintenance of two days every ten days. If we were able to maintain this five mile gravel section twice a week to prevent the washboarding problem, the estimated cost would be \$43,445.76 per year. This amount is over twice the current expenditure.

There is approximately five miles of aged pavement that requires maintenance as well. According to our maintenance schedule, the old sections of pavement are repaired twice a year, once in the spring and once in the fall. The cost to operate one machine with two men is \$76.00 per hour. This section takes approximately three days to complete repairs, therefore making a total cost for labor \$1,824.00. Materials (approximately 18 yds. of coal mix) will run approximately \$522.00 to repair this five mile section. The grand total to maintain the five mile section of pavement on County Road #62 is \$2,346.00 per year.

As you can see, the required maintenance cost is much less per year on the section of aged pavement compared to the gravel portion. It is our opinion, that it would cost far less than the above mentioned figures per year, if Guanella Pass, a.k.a County Road #62, was re-built and re-paved. Please note, however, that this construction would not be funded at the expense of Park County. Instead, the majority of costs for the application of the new pavement will be funded by the Federal Highway Administration.





COLORADO  
HISTORICAL  
SOCIETY

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

April 15, 1994

Richard J. Cushing  
Federal Highway Administration  
P.O. Box 25246, HPD -16 (Cushing)  
Denver, CO 80225-0246

Dear Mr. Cushing:

As research and study proceed on upgrading of the Guanella Pass Highway, the Colorado Historical Society would like several concerns to be addressed as the plan relates to the Society's Georgetown Loop Historic Mining and Railroad Park.

If the project route follows "Loop Drive," crossing Clear Creek just before the High Bridge of the Georgetown Loop Railroad, the Society has the following concerns:

1. Increased traffic along an upgraded road that filters or leads onto a much smaller road, such as the access road to the Railroad and Mining Park, could create significant problems. The access road under the High Bridge is very narrow, and, because of the bridge supports, it would be extremely difficult to widen. It also is a dead-end road that feeds into a parking area with limited space.

While the Society encourages visitation to the Park, the upgraded road along that particular route could create traffic problems that would make access to the Park more difficult. With no upgrade of our access road and other visitor facilities, the quality of a visit to the Park might be diminished. However, we also recognize that such an upgrade might benefit the Park significantly.

2. Bringing the Guanella Pass Road up "Loop Drive" and crossing the creek where it is proposed would have the road follow the old railroad bed. From a historic preservation point of view this might not be desirable, especially in such close proximity to the Park.

Not only would it hurt the historic integrity of the grade itself, it would, for all intents and purposes, prevent any future consideration of bringing the train further along the grade than it does at present. While the Society has no plans for any such expansion, it does not want to prevent future plans from being considered by any party that might deem them advisable.

Richard J. Cushing  
Federal Highway Administration  
April 15, 1994  
Page two

While we do have these two concerns, please know that the Colorado Historical Society supports the study of alternatives and the eventual upgrade of the road. It will benefit our operations and we look forward to working with you as plans are developed.

If you have any questions, I can be reached at 866-4596. Thank you very much for your consideration of these points.

Sincerely,

A handwritten signature in cursive script that reads "Ben Duke".

H. Benjamin Duke III  
Vice President, Development

cy

STATE OF COLORADO  
Roy Romer, Governor  
DEPARTMENT OF NATURAL RESOURCES  
**DIVISION OF WILDLIFE**  
AN EQUAL OPPORTUNITY EMPLOYER

Perry D. Olson, Director  
6060 Broadway  
Denver, Colorado 80216  
Telephone: (303) 297-1192

REFER TO



*For Wildlife—  
For People*

March 2, 1994

Robert Nestel  
Environmental Biologist  
Federal Highway Administration  
555 Zang Street  
P. O. Box 25246  
Denver, CO 80225-0246

RE: State Sensitive Species - Guanella Pass Road Vicinity

Dear Mr. Nestel:

As per Jerry Budwig's letter of February 15, I am responding to your request for information on "State Sensitive Species" which might be found in the vicinity of the proposed Guanella Pass Road upgrade project. Since we do not use the term "sensitive" in our categorization of species, I am going to respond with reference to our state threatened, endangered, and species of special concern lists. Note that there may be important wildlife issues relating to common species not referred to in this letter.

Since the U. S. Fish and Wildlife Service has already listed bald eagle, greenback cutthroat trout, northern goshawk, and boreal toad I will not repeat any reference to them.

**Threatened or Endangered Wildlife**

**Canada Lynx** (Colorado Endangered List) - This species is very rare in Colorado since we are at the southern end of its range. Sightings of lynx are very rare, but reliable sightings have come from Clear Creek County and Summit County just to the west. There is a fair chance that this species could occur in the vicinity of the road.

**Wolverine** (Colorado Endangered List) - Another species at the southern edge of its range in Colorado, wolverines are also very rare with reliable sightings being quite uncommon. A fairly recent reliable sighting, however, was made near the Guanella Pass road.

**Species of Special Concern**

**Northern Leopard Frog** - This amphibian occurs in wetlands up to 11,000 feet in elevation and in the past has had a widespread distribution across the state.

DEPARTMENT OF NATURAL RESOURCES, Kenneth L. Salazar, Executive Director  
WILDLIFE COMMISSION, Thomas M. Eve, Chairman • Louis F. Swift, Vice-Chairman • Arnold Salazar, Secretary  
Jesse Langston Boyd, Jr., Member • Eldon W. Cooper, Member • Rebecca L. Frank, Member  
William R. Hegberg, Member • Mark LeValley, Member

**Striped Chorus Frog** - Occurs to high elevations in Colorado. Breeds in pools and lives in wet meadows the rest of the time.

I hope this information is helpful. Let me know if you have any questions.

Sincerely,

A handwritten signature in black ink that reads "Dave Weber". The signature is written in a cursive, flowing style.

Dave Weber  
Habitat Biologist

cc: Russ Mason, Ron Oehlkers - DWM's



# United States Department of the Interior



## FISH AND WILDLIFE SERVICE FISH AND WILDLIFE ENHANCEMENT

Colorado State Office  
730 Simms Street, Suite 290  
Golden, CO 80401

ES/CO:Species List  
Mail Stop 65412

Phone (303) 231-5280

FTS 554-5280

FAX (303) 231-5285

**NOV 22 1993**

Jerry L. Budwig, Division Engineer  
U.S. Department of Transportation  
Federal Highway Administration  
555 Zang Street  
Denver, Colorado 80225-0246

Dear Mr. Budwig:

In response to your letter of November 9, 1993, the U.S. Fish and Wildlife Service is providing comments addressing the project areas for the improvement of Colorado Forest Highway 80, Guanella Pass Road. This list and comments should be helpful in your preparation of the environmental assessment of possible environmental effects of the proposed project. These comments have been prepared under the provisions of the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 et. seq.).

The Service appreciates your invitation to attend the interagency meeting scheduled for December 1, 1993. The Service is unable to attend due to manpower and budgetary constraints but wishes to offer the following comments for your consideration. If the Service can be of further assistance, please contact the Colorado Field Office at the above address.

The federally listed threatened and endangered species that could occur at or visit the proposed sites include:

Birds: Bald eagle, *Haliaeetus leucocephalus*

Fish: Greenback cutthroat trout, *Oncorhynchus clarki stomias*

The Service also is interested in the protection of species which are candidates for official listing as threatened or endangered (Federal Register, Vol. 56, No. 225, November 21, 1991; Vol. 55, No. 35, February 21, 1990). While these species presently have no legal protection under the ESA, it is within the spirit of this Act to consider project impacts to potentially sensitive candidate species. It is the intention of the Service to protect these species before human-related activities adversely impact their habitat to a degree that they would need to be listed and, therefore, protected under the ESA. Additionally, we wish to make you aware of the presence of Federal candidates should any be proposed or listed prior to the time that all Federal actions related to the project are completed. If any candidate species

will be unavoidably impacted, appropriate mitigation should be proposed and discussed with this office.

The list of Federal candidate species that could occur at or visit the proposed sites include:

Birds: Northern goshawk, *Accipiter gentilis*, Category 2

Amphibians: Boreal western toad, *Bufo boreas boreas*, Category 2

You should be made aware that the Service was recently petitioned to list the Boreal western toad. The Boreal western toad breeds in small beaver ponds and glacial kettle ponds but may breed in any body of water lacking strong current and usually inhabits wetlands at altitudes above 8,000 feet. Breeding occurs in late spring as the snowpack begins to melt. It is recommended that any disturbance to wetlands or pools of standing water should be avoided during the breeding season to ensure potential egg deposits are not impacted. Several breeding populations have been found in Clear Creek County near Georgetown and are known to occur throughout the Rocky Mountains.

You should contact the Colorado Division of Wildlife to address any concerns it may have. The contact person for this area is Dave Weber of the Denver Office at (303) 291-7231.

If the Service can be of further assistance, contact Clay Ronish of this office at (303) 231-5280.

Sincerely,



LeRoy W. Carlson  
Colorado Field Supervisor

cc: CDOW, Denver, CO (Attn: Dave Weber)  
Reading file  
Project file

Reference:  
CRR\*SPECLIST.42

# The Town of Georgetown

P.O. Box 426

Local: 569-2555

Georgetown, Colorado 80444

Denver: 623-6882

January 11, 1990

Clear Creek County Commissioners  
P.O. Box 2000  
Georgetown, Colorado 80444

Re: Guanella Pass Forest Highway Program

Dear Commissioners:

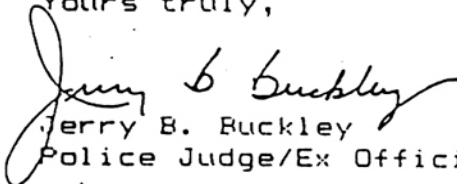
This letter is written to indicate to you that the Town of Georgetown strongly supports the Guanella Pass Forest Highway Program. We believe that this project would be very advantageous to the Georgetown area and we would like to encourage you to continue to make the effort to secure congressional funding of the project at the earliest possible date.

We recognize that this project would almost certainly generate increased traffic in the Georgetown area and we wish to stress the fact that we would want sufficient funding to account for the necessity of proper signage, proper drainage, and proper maintenance of the highway once completed.

We want also to advise you that the Town of Georgetown is currently working on a plan which will compliment this highway program. A newly created ordinance provides for a Town Promotions Commission. This commission will be taking advantage of the visitor information collected and analyzed by the National Park Service Task Force group which recently completed a study of our area. The information gained therein will be used to look at positive and effective ways to facilitate the flow of traffic through Georgetown and beyond, will look at adding parks and visitor amenities, and will look at adding additional parking areas both near-in and adjacent to the Town of Georgetown, the latter having the potential for the possibility of shuttle services into the downtown core. This commission will be advisory to the Board of Selectmen and will regularly be reporting to the Board.

Please keep us advised of progress in getting this Guanella Pass Forest Highway Program funded and in effect.

Yours truly,

  
Jerry B. Buckley

Police Judge/Ex Officio Mayor

photocopy: Bd of CC 15 Jan 90

## **ORGANIZATION OF RESPONSES TO PUBLIC COMMENTS**

On mid-1999 the Draft Environmental Impact Statement (DEIS) evaluating the No Action alternative (Alternative 1), and build Alternatives 2-5 was released for public review. Public comments received indicated a need to evaluate a build alternative smaller in scope with less impact to the surrounding environment. In response to these comments, FHWA developed a new alternative, Alternative 6, in a Supplemental Draft Environmental Impact Statement (SDEIS) released in late 2000.

Public comments received on both the DEIS and SDEIS were entered into a database and assigned an identification number that permitted FHWA to track each individual comment. Due to the number of public comments received for both of these documents, they could not be included in this Final Environmental Impact Statement (FEIS). Instead, a list of all comments received and their identification numbers can be found under the tab labeled "Index." Copies of all public comments received on both the DEIS and the SDEIS are available for review at the locations listed at the beginning of Volume I of this FEIS. The DEIS and SDEIS public comments are found in a four-volume set and are organized by the assigned identification numbers. Please note that copies of inter-agency correspondence regarding proposed project have been included in Appendix A.

Because the public comments typically addressed similar issues, FHWA organized all comments into a total of 35 categories: 21 categories for the DEIS comments, 14 categories for the SDEIS comments. Some of these categories were further broken down into subcategories. FHWA has responded to each of the categories and corresponding subcategories in this Appendix. A complete list of the categories and subcategories and FHWA's responses to each of these can be found under the tab marked "Categories and Responses."

To determine how comments in individual letters were categorized, refer to the tab labeled "Index." The index lists all comments received in a spreadsheet. The comments are sorted first by the Comment Classification (Agency/Committees, Personal Communication, Public Hearing, Petition), then second by the name of the Agency or Committee (if applicable), and then by the Last Name and then First Name of the signatory. After having located a specific commentary, refer to the last column labeled "Category/Subcategory" to determine how the comment(s) were categorized. The numbers and letters found here refer to the categories and subcategories found under the tab "Categories and Responses."



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COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
I. AGENCIES/ ORGANIZATIONS	Alperstein & Covell, P.C.	Caswall	Edward, M.		Legal Representation	500	DEIS	1, 4(A)
I. AGENCIES/ ORGANIZATIONS	Alperstein & Covell, P.C. (Represented by Faegre & Benson, LLP)	Fields	Leslie A.	Denver, CO	Legal Representation	501	DEIS	1, 3(F), 6(F), 9(D,G), 15(C,D), 16(C,E)
I. AGENCIES/ ORGANIZATIONS	American Discovery Trail	Hisgen	Harv	Golden, CO	Agent	682	DEIS	14(A,C)
I. AGENCIES/ ORGANIZATIONS	American Discovery Trail	Hisgen	Harv		12/6/00 Public Hearing	5074	SDEIS	14(A,C)
I. AGENCIES/ ORGANIZATIONS	American Lands Alliance	Savage	Harlin	Boulder, CO	Letter	480	DEIS	2(A,B,C), 3(A), 5(B), 12(D,E)
I. AGENCIES/ ORGANIZATIONS	American Lands Alliance	Savage	Harlin		Letter	5508	SDEIS	3(B), 5(E), 8(G), 9(B), 12(D,I), 17, 23(J), 24(A,B), 26, 28(E)
I. AGENCIES/ ORGANIZATIONS	Bicycle Aurora	Tobiassen	Tom	Aurora, CO	Agent	696	DEIS	1, 14(A)
I. AGENCIES/ ORGANIZATIONS	Bicycle CO, Denver Bicycle Touring Club, Bicycle Aurora	Tobiassen	Tom		12/6/00 Public Hearing	5070	SDEIS	26(B)
I. AGENCIES/ ORGANIZATIONS	Cherokee Park Ranch	Unreadable	Christine	Livermore,CO	Letter	72	DEIS	2(B,C,D), 3(A,B), 4(E), 12(E)
I. AGENCIES/ ORGANIZATIONS	Cherokee Park Ranch (duplicate from 8/13/99)	Unreadable		Livermore, CO	Agent	700	DEIS	2C, 3(A), 5(B), 8(F), 9(F)
I. AGENCIES/ ORGANIZATIONS	Citizens to Save GP	Anderson	Coralue	Georgetown, CO	Comment Sheet	507	DEIS	1, 3(D,E), 6(A,B), 15(B)
I. AGENCIES/ ORGANIZATIONS	Clear Creek County	Poirot/Sorensen/Watrous	Robert/Jo Ann/Fabyan	Georgetown, CO	Agent	689	DEIS	1, 2(B,C), 3(A), 5(A,B), 7(A), 9(B), 16(C,D)
I. AGENCIES/ ORGANIZATIONS	Clear Creek County Director of Economic Development	Stokes	Peggy		12/7/00 Public Hearing	5103	SDEIS	11, 22, 23(G)
I. AGENCIES/ ORGANIZATIONS	Clear Creek County Unincorporated	Wagner	Tom		Agent	697	DEIS	1, 4(A), 12(H)
I. AGENCIES/ ORGANIZATIONS	Clear Creek County(2 letters w/different topics)	Smith	Robert C.	Idaho Springs, CO	Agent	692	DEIS	2(H), 12(G,H,I)
I. AGENCIES/ ORGANIZATIONS	Clear Creek County(2 letters w/different topics)	Smith	Robert C.	Idaho Springs, CO	Agent	693	DEIS	1, 2(C,D,E,F), 3(A,H), 4(C), 6(F), 12(D,H)
I. AGENCIES/ ORGANIZATIONS	Clear Creek Economic Development Corporation	Stokstad	Peggy	Georgetown, CO	Agent	503	DEIS	10(A,B)

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
I. AGENCIES/ ORGANIZATIONS	Clear Creek Economic Development Corporation (Duplicate from 9/7/99)	Stokstad	Peggy	Georgetown, CO	Agent	695	DEIS	1, 11, 12(H)
I. AGENCIES/ ORGANIZATIONS	Coldwell Banker (Guest Ranch Specialist)	Callaway	Carolyn W.	Fort Collins, CO	Agent	674	DEIS	3(J), 5(A,B), 8(B), 9(F), 15(D)
I. AGENCIES/ ORGANIZATIONS	Colorado Community First National Bank	Harris	Howard L.	Fraser, CO	Agent	681	DEIS	2(A), 5(B,C,E), 15(D)
I. AGENCIES/ ORGANIZATIONS	Colorado Dude & Guest Ranch Association	Catlow	Wright M.	Labemash, CO	Agent	675	DEIS	3(A), 5(C)
I. AGENCIES/ ORGANIZATIONS	Colorado Historical Society	Wolfe	Mark		Letter	5464	SDEIS	22, 28(C)
I. AGENCIES/ ORGANIZATIONS	Colorado Mtn Club	Kummer	Phil		12/6/00 Public Hearing	5068	SDEIS	7, 26(A)
I. AGENCIES/ ORGANIZATIONS	Colorado Mule Riders	Fortney	Gale W.		Agent	680	DEIS	15(D)
I. AGENCIES/ ORGANIZATIONS	Colorado Wild	Smith	Rocky	Denver, CO	Agent	694	DEIS	1, 2(A,B,C,D), 3(A,H), 4(A), 5(A,B,D,E), 6(A,B,C), 7(A,B,D), 8(A,C), 9(B), 12(C,I), 15(B), 16(A,B,C,D)
I. AGENCIES/ ORGANIZATIONS	Colorado Wild	Smith	Rocky		12/4/00 Public Hearing	5021	SDEIS	12(D,I)
I. AGENCIES/ ORGANIZATIONS	Colorado Wild	Smith	Rocky		Letter	5751	SDEIS	16(D), 23(A,J,S), 24(A,B), 26(A), 28(D,E)
I. AGENCIES/ ORGANIZATIONS	Consultant to Tumbling River Ranch – (6 letters with varying issues)	Nevius	William H.	Grant, CO	Letter	590	DEIS	1, 5(A), 6(A,E)
I. AGENCIES/ ORGANIZATIONS	Consultant to Tumbling River Ranch - (6 letters with varying issues)	Nevius	William H.	Grant, CO	Letter	589	DEIS	1, 2(D), 3(A), 6(A,B,E)
I. AGENCIES/ ORGANIZATIONS	Consultant to Tumbling River Ranch – (6 letters with varying issues)	Nevius	William H.	Grant, CO	Letter	591	DEIS	1, 15(D)
I. AGENCIES/ ORGANIZATIONS	Consultant to Tumbling River Ranch – (6 letters with varying issues)	Nevius	William H.	Grant, CO	Letter	592	DEIS	1, 3(H)
I. AGENCIES/ ORGANIZATIONS	Consultant to Tumbling River Ranch – (6 letters with varying issues)	Nevius	William H.	Grant, CO	Letter	593	DEIS	6(A)

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
I. AGENCIES/ ORGANIZATIONS	Consultant to Tumbling River Ranch – (6 letters with varying issues)	Nevius	William H.	Grant, CO	Letter	594	DEIS	1, 2(A), 9(G), 15(D), 16(B,C,E)
I. AGENCIES/ ORGANIZATIONS	East Mt. Evans Resource Growth & Development	Andrew	Mel		Personal Letter	5304	SDEIS	23(A,I), 24(A), 28(D)
I. AGENCIES/ ORGANIZATIONS	Evergreen Audobon Society/Rocky Mtn. Chapter of the Sierra Club	Armbrust	Lewis	Evergreen, CO	Letter	29	DEIS	2(B,C,D), 4(E), 8(G), 13(A)
I. AGENCIES/ ORGANIZATIONS	Fall River Homeowners Association	Arnold	Bill	Idaho Springs, CO	Agent	672	DEIS	2(A,B,D), 4(E), 7(D), 15(B)
I. AGENCIES/ ORGANIZATIONS	Georgetown Loop Railroad	Ashby	Rosa	Lakewood, CO	Form Letter #3	5341	SDEIS	23(N,D,P,T), 26, 28(F,H), 29(F)
I. AGENCIES/ ORGANIZATIONS	Georgetown Loop Railroad	Greksa	Leah		Form Letter #3	5525	SDEIS	23(N,D,P,T), 26, 28(F,H), 29(F)
I. AGENCIES/ ORGANIZATIONS	Georgetown Loop Railroad	Greksa	Mark		Form Letter #3	5527	SDEIS	23(N,D,P,T), 26, 28(F,H), 29(F)
I. AGENCIES/ ORGANIZATIONS	Georgetown Loop Railroad Inc.	Greksa	Mark and Leah	Georgetown, CO	Letter	156	DEIS	2(A,B,D,E), 3(J), 5(B,C), 9(F), 12(D,I), 14(A)
I. AGENCIES/ ORGANIZATIONS	Georgetown Loop Railroad, Inc.	Ropchan	David	Golden, CO	Comment Sheet	204	DEIS	3(H), 5(E), 8(F), 15(B)
I. AGENCIES/ ORGANIZATIONS	Georgetown, Board of Selectmen, Ward 1	Bradley	Christine	Georgetown, CO	Letter	34	DEIS	1, 4(A), 7(A,C,E), 15(B)
I. AGENCIES/ ORGANIZATIONS	Historic Georgetown, Inc	Neely	Ronald J.	Georgetown, CO	Agent	687	DEIS	1, 3(H), 8(D), 12(D)
I. AGENCIES/ ORGANIZATIONS	Jessup Family and Staff of Sylvan Dale Ranch	Jessup	Susan	Loveland, CO	Letter	47	DEIS	3(A,D,F,J), 8(B,C,E), 15(D), 16(C,E)
I. AGENCIES/ ORGANIZATIONS	Kay El Bar Guest Ranch	Loftis	John	Wickenburg, AZ	Letter	50	DEIS	2(A,D,E), 3(A,F,J), 4(E)
I. AGENCIES/ ORGANIZATIONS	Kay el Bar Guest Ranch	Loftis	John	Lakewood, CO	Letter	5190	SDEIS	3(A), 17, 24(B), 26
I. AGENCIES/ ORGANIZATIONS	Kilgore Ranch Company	Kilgore	Eugene	Tahoe City, CA	Letter	48	DEIS	3(A,B,C,D,E), 5(A,B,E), 12(A), 16(C)
I. AGENCIES/ ORGANIZATIONS	Kilgore Ranch Company	Kilgore	Eugene S.	Tahoe City, CA	Agent	685	DEIS	3(F), 5(B,C), 12(A), 15(D)
I. AGENCIES/ ORGANIZATIONS	Kilgore Ranch Company	Kilgore, III	Eugene S.	Tahoe City, CA	Letter	5457	SDEIS	2(A), 3(A), 12(A), 15(C)
I. AGENCIES/ ORGANIZATIONS	Lake Mancos Ranch	Sehnert	Kathryn	Mancos, CO	Letter	63	DEIS	2(A,B,C), 5(A,D,E), 8(E), 9(F)

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
I. AGENCIES/ ORGANIZATIONS	Lowe, Gray, Steele & Darko, LLP	Shively	Margaret	Indianapolis, IN	Letter	66	DEIS	3(B), 4(A,E), 8(E)
I. AGENCIES/ ORGANIZATIONS	Mountain Parks Bank	Brumbelow	Norman R.	Fairplay, CO	Agent	673	DEIS	15(D)
I. AGENCIES/ ORGANIZATIONS	National Audubon Society	Kirkpatrick	Susan	Boulder, CO	Letter	5432	SDEIS	2(A), 12(A), 24(A)
I. AGENCIES/ ORGANIZATIONS	Naylor Lake Fishing Club	Davia	David, Richard Valori, Jim Jordan, Phil Buckland,		Letter	5451	SDEIS	10(A,B,C)
I. AGENCIES/ ORGANIZATIONS	North Fork Guest Ranch	May	Dean	Shawnee, CO	Letter	51	DEIS	4(A,E), 5(A,E), 8(D,E), 9C, 15(D), 16(A,B,C,D)
I. AGENCIES/ ORGANIZATIONS	North Fork Guest Ranch	May	Dean G.	Shawnee, CO	Agent	686	DEIS	3(D), 4(A,E), 15(B,D), 16(C,E)
I. AGENCIES/ ORGANIZATIONS	NWF	Gilbert	Monique	Montpelier, VT	Letter	41	DEIS	2(A,B,C,D,E), 5(B), 9(F), 12(E,I)
I. AGENCIES/ ORGANIZATIONS	President, Zinn Cycles	Zinn	Lennard		E-Mail	527	DEIS	14(A)
I. AGENCIES/ ORGANIZATIONS	Rawah Ranch	Kunz	Pete and Ardythe	Jelm, WY	Letter	162	DEIS	2(C), 3(A,B,F), 5(B), 8(E), 15(C)
I. AGENCIES/ ORGANIZATIONS	Selected Properties International, Inc.	Fawcett	H. Bob	Denver, CO	Agent	678	DEIS	2(A,B), 3(D,F), 4(E), 5(A), 9(F), 15(D)
I. AGENCIES/ ORGANIZATIONS	Sierra Club	Armbrust	Lewis	Evergreen, CO	Comment Sheet	2	DEIS	2(A,C,E), 9(C)
I. AGENCIES/ ORGANIZATIONS	Sierra Club	Bacigalupi	Tod		12/4/00 Public Hearing	5015	SDEIS	2(A), 3(A), 23(L), 28(A)
I. AGENCIES/ ORGANIZATIONS	Sierra Club	Banta	Eric		12/6/00 Public Hearing	5066	SDEIS	7(D), 12(D), 30
I. AGENCIES/ ORGANIZATIONS	Sierra Club	Casini, LeFever	Greg, Susan		Letter	5455	SDEIS	23(J), 24(B), 26(A), 29
I. AGENCIES/ ORGANIZATIONS	Sierra Club, Mt. Evans Group	Yarroll	Lyn	Evergreen, CO	Agent	502	DEIS	13(B)
I. AGENCIES/ ORGANIZATIONS	Sierra Club, Mt. Evans Group	Yarroll	Lyn	Evergreen, CO	Agent	701	DEIS	1, 2(A,B,C,D,F), 3(A,E,H), 4(A), 5(B,E), 6(A,B,C,E), 7(A,B,D), 8(C), 9(B), 12(I), 16(A,B,C,D)
I. AGENCIES/ ORGANIZATIONS	Sierra Club, Mt. Evans Group	Yarroll and Bacigalupi	Lyn and Tod		Letter	5510	SDEIS	2(A,B,C,D,E), 3(A), 5(E), 9(B), 12(A,D,I), 16(B,D), 23(O,P), 24(A,B), 26, 28(D,E), 29(A,B,D)
I. AGENCIES/ ORGANIZATIONS	Sierra Club, Pikes Peak Group	Lockhart	James E.		Letter	5463	SDEIS	2(A,D), 8(G), 12(D), 17, 24(A,I), 28, 29(A)

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
I. AGENCIES/ ORGANIZATIONS	State of Colorado, Division of Wildlife	Hoover	Scott	Denver, CO	Agency Letter	5227	SDEIS	2(A,C), 28C, 29(A)
I. AGENCIES/ ORGANIZATIONS	State of Colorado, Division of Wildlife	Weber	Dave	Denver, CO	Agent	699	DEIS	1, 2(A,B,C), 8(D), 16(B)
I. AGENCIES/ ORGANIZATIONS	State of Colorado, Division of Wildlife	Weber	Dave	Denver, CO	Agent	710	DEIS	1, 2(A,B,C), 8(D), 16(B)
I. AGENCIES/ ORGANIZATIONS	Tarryall River Ranch	Baxter	Debra	Lake George, CO	Letter	49	DEIS	1, 2(A,B,C), 3(A,B,F,I,J), 5(C,E), 8(D), 9(D,E), 12(A,H), 15(C,E)
I. AGENCIES/ ORGANIZATIONS	Tarryall River Ranch	Fagerstrom	James	Lake George, CO	Letter	49	DEIS	1, 2(A,B,C), 3(A,B,F,I,J), 5(C,E), 8(D), 9(D,E), 12(A,H), 15(C,E)
I. AGENCIES/ ORGANIZATIONS	Tarryall River Ranch	Lahrman	James & Jeannine	Lake George, CO	Letter	49	DEIS	1, 2(A,B,C), 3(A,B,F,I,J), 5(C,E), 8(D), 9(D,E), 12(A,H), 15(C,E)
I. AGENCIES/ ORGANIZATIONS	The Burlington Ditch, Reservoir and Land Co.	Wall	Harlan	Brighton, CO	Agent	698	DEIS	10(A), 11, 18
I. AGENCIES/ ORGANIZATIONS	The Colorado Mountain Club	Neuman/Smith	Claude/Vera	Golden, CO	Agent	688	DEIS	2(B,C), 3(A,H), 4(A), 7(A), 9(C,F)
I. AGENCIES/ ORGANIZATIONS	The Denver Bicycle Touring Club, Inc.	Cole	Rex E.	Denver, CO	Agent	677	DEIS	14(A)
I. AGENCIES/ ORGANIZATIONS	The Evergreen Naturalists Audubon Society, Inc	Simon	Kent		Letter	5461	SDEIS	2(D), 3(A,C), 9, 12(E), 23, 24(B,C), 26(A), 29(A)
I. AGENCIES/ ORGANIZATIONS	The Evergreen Naturalists Audubon Society, Inc.	Price/Jones	Lynne/Dave	Evergreen, CO	Agent	690	DEIS	1, 2(B,C,D,G), 3(A), 5(A,B), 7(B,C,D), 9(B,F), 12(I)
I. AGENCIES/ ORGANIZATIONS	Town of Georgetown/Board of Selectmen	Claus	Janet	Georgetown, CO	Agent	154	DEIS	2(A,B,C,D), 3(H), 4(A), 7(A,E,G), 12(A,D,E,I), 15(B), 16(A,B,C,D)
I. AGENCIES/ ORGANIZATIONS	Town of Georgetown/Board of Selectmen	Claus	Janet	Georgetown, CO	Agent	504	DEIS	1, 2(A), 3(H), 4(A), 12(E), 15(B), 16(D)
I. AGENCIES/ ORGANIZATIONS	Trailhead Wilderness School	Ventimiglia	David	Georgetown, CO	Letter	170	DEIS	7(A)
I. AGENCIES/ ORGANIZATIONS	Tumbling River Ranch	Dougan	Scott		12/6/00 Public Hearing	5077	SDEIS	3(A), 4(E), 12(A), 26(A)
I. AGENCIES/ ORGANIZATIONS	University of the Wilderness	Mounsey	William Bird		Letter	5491	SDEIS	2(A), 8(G), 24(B), 29(A)
I. AGENCIES/ ORGANIZATIONS	Upper Arkansas & South Platte Project	Smith	Jean C.	Dener, CO	Agent	1A	DEIS	2(c), 3(A,B,F),19
I. AGENCIES/ ORGANIZATIONS	Upper Arkansas and South Platte Project	Smith	Jean C.	Denver, CO	Agent	691	DEIS	1, 2(A,B,C,D), 3(A,B,F,G), 5(A,B,E), 6(A), 7(A,D), 15(B,D), 16(C)

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
I. AGENCIES/ ORGANIZATIONS	Upper Arkansas and South Platte Project	Smith	Jean C.	Denver, CO	12/6/00 Public Hearing	5083	SDEIS	23(S,U)
I. AGENCIES/ ORGANIZATIONS	Upper Arkansas and South Platte Project	Smith	Jean C.	Denver, CO	Letter	5465	SDEIS	2(A,C), 7(A), 12(D), 16(D), 23(O,Q), 24(A), 28(A,D)
I. AGENCIES/ ORGANIZATIONS	US Dept. of the Interior	Taylor	Willie, R.	Washington, D.C.	Agent	505	DEIS	1, 3(H)
I. AGENCIES/ ORGANIZATIONS	US DOT/ FHWA	Kane	Anthony R.		Agent	684	DEIS	7(B)
I. AGENCIES/ ORGANIZATIONS	US EPA	Cody	Cynthia	Denver, CO	Agent	676	DEIS	1, 2(B,C)
I. AGENCIES/ ORGANIZATIONS	US EPA	Cody	Cynthia	Denver, CO	Agent	5811	SDEIS	1, 2(B,C)
I. AGENCIES/ ORGANIZATIONS	Vista Verde	Munn	John	Steamboat Springs, CO	Letter	54	DEIS	1, 2(B,C), 3(A), 5(A,B,C,D), 8(), 9(F)
I. AGENCIES/ ORGANIZATIONS	Water shed Administration	Jones	Bob		12/7/00 Public Hearing	5101	SDEIS	11, 23(A), 26(B)
I. AGENCIES/ ORGANIZATIONS	Waunita Hot Springs Ranch	Pringle	Rod, Junelle, Ryan, Tammy	Gunnison, CO	Letter	60	DEIS	2(A), 8 (D,E)
I. AGENCIES/ ORGANIZATIONS	Westcliffe Publishers	Fielder	John	Englewood, CO	Agent	679	DEIS	2(A,B,C), 3(A,J), 5(B), 8(C,E)
I. AGENCIES/ ORGANIZATIONS	Western Pacific Art Co.	Pugh	W.A.	Georgetown, CO	Comment Sheet	18	DEIS	2(A,E), 3(A,E,H), 5(D)
I. AGENCIES/ ORGANIZATIONS	Wilderness Society, The	Jones	Suzanne		Letter	5509	SDEIS	2(E), 3(B), 8(G), 9(C), 15(B), 23(E,F,J,G,N,Z), 24(A), 26, 33
I. AGENCIES/ ORGANIZATIONS	Wilderness Society, The	Jones/Morton	Suzanne/Dr. Pete	Denver, CO	Agent	683	DEIS	1, 2(A,B,C,D,E), 3(A,C,H,J), 5(B), 6(A), 9(B,C), 12(I), 15(B), 16(B,C,E)
I. AGENCIES/ ORGANIZATIONS	Audubon Society of Greater Denver	Reetz	Pauline P.	Littleton, CO	Letter	5435	SDEIS	2(A), 3(A), 12(D), 23(AA), 24(A), 26(A), 28(B,D)
I. AGENCIES/ ORGANIZATIONS	Bicycle Aurora	Tobiassen	Tom		Personal Email	5287	SDEIS	10(A,B), 14(A), 18
I. AGENCIES/ ORGANIZATIONS	Clear Creek County Economic Development Corp.	Stokstad	Peggy	Georgetown, CO	Personal Letter	5212	SDEIS	11, 22
I. AGENCIES/ ORGANIZATIONS	Consultant to Tumbling River Ranch	Nevius	William H.	Grant, CO	Personal Letter	166	DEIS	6(B,C)
I. AGENCIES/ ORGANIZATIONS	Consultant to Tumbling River Ranch	Nevius	William H.	Grant, CO	Personal Letter	5219	SDEIS	15(C,D), 23(B,L), 28(A)
I. AGENCIES/ ORGANIZATIONS	Georgetown Motor Inn	Williams	Marie-Claude and Tom	Georgetown, CO	Personal Letter	5298	SDEIS	8(G), 26(A), 33
I. AGENCIES/ ORGANIZATIONS	Georgetown Motor Inn	Williams	Marie-Claude and Tom	Georgetown, CO	Personal Letter	5365	SDEIS	3(A), 26(A), 33

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
I. AGENCIES/ ORGANIZATIONS	Rollinsville Community Church	Whitman	Forrest	Rollinsville	Personal Letter	5309	SDEIS	26(A), 28(A)
I. AGENCIES/ ORGANIZATIONS	Serria Club, Mt. Evans Group	Yarrol	Lyn	Evergreen, CO	Personal Letter	5218	SDEIS	34
I. AGENCIES/ ORGANIZATIONS	The Colorado Mountain Club	Neumann	Claude		Letter	5505	SDEIS	3(A), 5(E), 8(G), 12(D,E), 24(B), 26(A)
I. AGENCIES/ ORGANIZATIONS	Town of Empire	Short	Lori	Empire, CO	Personal Letter	5444	SDEIS	10(A), 11, 22
I. AGENCIES/ ORGANIZATIONS	Western Pacific Art Co.	Pugh	W.A		Comment Sheet	5221	SDEIS	28(N,F,A,U)
II. PERSONAL COMMUNICATION		Ambrust	William	Kittredge, CO	Comment Sheet	3	DEIS	2(A,C,E), 3(A,D), 4(E), 5(A,B,C,D), 9(E), 16(A)
II. PERSONAL COMMUNICATION		Anderson	Clyde	Idaho Springs, CO	Comment Sheet	1	DEIS	2(A), 4(E), 9(C),
II. PERSONAL COMMUNICATION		A.	Jorge		Personal Letter	5315	SDEIS	2(A,C), 3(A), 17
II. PERSONAL COMMUNICATION		Allen	Barbara	Georgetown, CO	Comment Sheet	140	DEIS	2(B,C,D,E), 3(A), 5(C), 12(D,I)
II. PERSONAL COMMUNICATION		Allen	Barbara J.	Georgetown, CO	Personal Letter	5302	SDEIS	2(A), 3(A), 5(E,B,), 12(D), 24(A), 26(A), 28(B,D)
II. PERSONAL COMMUNICATION		Allen	Barbara J.		Personal Letter	5770	SDEIS	3(A), 5(E), 12(D), 16(D), 24(A), 26(A), 28
II. PERSONAL COMMUNICATION		Allen	Christopher		Personal Letter	5768	SDEIS	3(A), 12(D), 26
II. PERSONAL COMMUNICATION		Ambrust	L.E.		Personal Letter	5243	SDEIS	3(A), 8, 28(F), 29(A,B), 33
II. PERSONAL COMMUNICATION		Ambrust	L.E.		Personal Letter	5244	SDEIS	2(A)
II. PERSONAL COMMUNICATION		Ambrust	L.E.		Personal Letter	5288	SDEIS	2(A,C,E), 3(A,B), 8, 26, 29(A), 33
II. PERSONAL COMMUNICATION		Ambrust	L.E.		Personal Letter	5289	SDEIS	2(A,C), 17
II. PERSONAL COMMUNICATION		Ambrust	Lewis		Personal Letter	215	DEIS	2(B,C), 3(A,J), 8(E), 9(C)
II. PERSONAL COMMUNICATION		Ambrust	William	Kittredge, CO	Comment Sheet	141	DEIS	2(C,D), 3(A,B), 8(B), 9(B)
II. PERSONAL COMMUNICATION		Anderson	Bennett Boyd JR		Personal Letter	5769	SDEIS	2(A), 26
II. PERSONAL COMMUNICATION		Anderson	Clyde R,	Idaho Springs, CO	Personal Letter	5237	SDEIS	2(A), 4(F), 8(B), 32



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II. PERSONAL COMMUNICATION		Anderson	Coralue	Georgetown, CO	Comment Sheet	507	DEIS	1, 3(H), 16(C,D,E)
II. PERSONAL COMMUNICATION		Anderson	Coralue	Georgetown, CO	Personal Letter	528	DEIS	1, 2(A,B,G), 3(A,D,H), 4(A,E), 5(A,B,E), 6(A,B), 7(B,D), 8(C), 9(B,E,G), 13(A), 15(B), 16(C,D,E)
II. PERSONAL COMMUNICATION		Anderson	Coralue	Georgetown, CO	Comment Sheet	5253	SDEIS	2(B,C), 3(B), 4(F), 8(D,G), 12(A), 17, 29(C)
II. PERSONAL COMMUNICATION		Anderson	Coralue		Personal Letter	5501	SDEIS	4(E), 16(B,C,D), 23(F,R,P,L,S,Z)
II. PERSONAL COMMUNICATION		Anderson	Coralue		Personal Letter	5767	SDEIS	2(B), 3(A), 12, 16(C)
II. PERSONAL COMMUNICATION		Anderson	Henry K Jr		Form Letter #3	5783	SDEIS	23(N,D,P,T), 26, 28(F,H), 29(F)
II. PERSONAL COMMUNICATION		Anderson	Hugh	Georgetown, CO	Personal Letter	5241	SDEIS	2(A), 23(L), 24(B), 26, 29, 33
II. PERSONAL COMMUNICATION		Anderson	Hugh	Georgetown, CO	Form Letter #5	5273	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Anderson	Hugh	Georgetown, CO	Personal Letter	5294	SDEIS	2(A), 24(B), 26, 33, 35
II. PERSONAL COMMUNICATION		Anderson	Judy	Georgetown, CO	Personal Letter	213	DEIS	3(A), 7(A,D), 8(E)
II. PERSONAL COMMUNICATION		Anderson	Judy		Form Letter #5	5402	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Anderson	Wendy		Personal Letter	529	DEIS	2(B), 3(C,H), 4(A), 5(E), 12(A,E), 15(B)
II. PERSONAL COMMUNICATION		Anderson	Wendy		Form Letter #5	5530	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Anderson	Wendy		Form Letter #6	5542	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Anderson	Wendy, Coralue, Kneisel, Henry		Form Letter #3	5520	SDEIS	23(N,D,P,T), 26, 28(F,H), 29(F)
II. PERSONAL COMMUNICATION		Andrew	Mel		Personal Letter	148	DEIS	1, 2(A,F), 3(H), 12(D,E,I)
II. PERSONAL COMMUNICATION		Andrews	Paul	Denver, CO	Personal Letter	230	DEIS	2(B,C), 8(D,G), 12(A,D,I), 16(E)
II. PERSONAL COMMUNICATION		Andrews	Paul		Personal Letter	530	DEIS	2(A), 3(A), 8(B)
II. PERSONAL COMMUNICATION		Andromidas	Jorge, L.	Boulder, CO	Personal Letter	214	DEIS	2(A,B,C), 3(A,I), 8(F), 12(E)

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
II. PERSONAL COMMUNICATION		Angell	Elissa	Denver, CO	Personal Letter	531	DEIS	1, 2(A,C,D), 3(A), 4(A),5(B), 6(E), 8(D,E)
II. PERSONAL COMMUNICATION		Angell	Elissa	Denver, CO	Personal Letter	5182	SDEIS	1, 23(U,W), 24(B), 26
II. PERSONAL COMMUNICATION		Angell	Elissa & Robert	Denver, CO	Personal Letter	5229	SDEIS	2(A,D), 24(B), 26(A)
II. PERSONAL COMMUNICATION		anonymous			Comment Sheet	23	DEIS	2(D), 8(G), 12(G)
II. PERSONAL COMMUNICATION		anonymous			Comment Sheet	147	DEIS	2(D), 7(A), 12(D,E)
II. PERSONAL COMMUNICATION		anonymous			Comment Sheet	197	DEIS	10(A,B)
II. PERSONAL COMMUNICATION		anonymous			Comment Sheet	506	DEIS	5(B), 12(D,G)
II. PERSONAL COMMUNICATION		Applegate	Sue		Form Letter #1	75	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Armstrong	David	Loveland, CO	Personal Letter	30	DEIS	2(E), 4(A), 8(E,G)
II. PERSONAL COMMUNICATION		Arnold	Matthew	Denver, CO	Personal Letter	31	DEIS	2(A,B,C,F,D), 3(A,J), 4(A), 7(A), 8(B,G) 12(D)
II. PERSONAL COMMUNICATION		Arnorld	Matt	Denver, CO	Form Letter #2	5383	SDEIS	8(G), 24(B), 26
II. PERSONAL COMMUNICATION		Ashby	Lindsey		Form Letter #3	5526	SDEIS	23(N,D,P,T), 26, 28(F,H), 29(F)
II. PERSONAL COMMUNICATION		Ashby	Lindsey and Rosa	Georgetown, CO	Form Letter #5	5349	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Asphang	Rolf	Littleton, CO	Comment Sheet	198	DEIS	2(E,F), 3(A,D,J), 7(D), 12(E,H)
II. PERSONAL COMMUNICATION		Augusto	Scott	Denver, CO	Personal Letter	532	DEIS	2(D), 12(A,E)
II. PERSONAL COMMUNICATION		Axley	Hartman		Telephone Conversation Record	5753	SDEIS	23(F), 26, 35
II. PERSONAL COMMUNICATION		Axley	Marge		Telephone Conversation Record	5752	SDEIS	2(B), 23(F), 32, 33
II. PERSONAL COMMUNICATION		Babcock	Scott	Littleton, CO	Form Letter #1	76	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Baehley			Form Letter #3	5523	SDEIS	23(N,D,P,T), 25, 28(F,H), 29(F)

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
II. PERSONAL COMMUNICATION		Baer	Leslie	Denver, CO	Personal Letter	31	DEIS	2(A,B,C,F,D), 3(A,J), 4(A), 7(A), 8(B,G) 12(D)
II. PERSONAL COMMUNICATION		Baer	Leslie Martel	Denver, CO	Form Letter #2	5384	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Baer	Robin	Lakewood, CO	Personal Letter	533	DEIS	2(B,C,D), 3(C,D), 12(D,E)
II. PERSONAL COMMUNICATION		Baer	Robin		Personal Email	5361	SDEIS	3(A), 12(I), 24(B), 29(C), 33
II. PERSONAL COMMUNICATION		Baer	Robin M.		Personal Letter	5425	SDEIS	3(B), 24(B), 26, 33
II. PERSONAL COMMUNICATION		Bailey	Charles	Hygiene, CO	Form Letter #2	5118	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Baker	Mary & Thomas		Form Letter #1	77	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Baldwin		Lakewood, CO	Personal Letter	5228	SDEIS	3(A), 26
II. PERSONAL COMMUNICATION		Baleruy	Pam		Form Letter #1	78	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Balice	Judith		Personal Letter	5781	SDEIS	3(A), 12(D,G,H)
II. PERSONAL COMMUNICATION		Balogh	David R.	Boone, CO	Personal Letter	534	DEIS	2(A,C), 8(E,G)
II. PERSONAL COMMUNICATION		Barbash	Noel		Personal E-Mail	517	DEIS	2(C), 4(A), 8(B)
II. PERSONAL COMMUNICATION		Barker	Todd	Jericho, VT	Form Letter #1	79	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Barnes	Cynthia	Denver, CO	Personal Letter	216	DEIS	2(B), 3(A), 5(D), 8(F), 12(E)
II. PERSONAL COMMUNICATION		Beauchamp	Gary and Deanna	Georgetown, CO	Personal Letter	149	DEIS	3(A), 4(A), 12(D)
II. PERSONAL COMMUNICATION		Beauchamp	Gary and Deanna	Georgetown, CO	Personal Letter	150	DEIS	2(E), 3(E,J), 4(A), 8(C), 12(H)
II. PERSONAL COMMUNICATION		Beauchamp	Gary and Deanna	Georgetown, CO	Personal Letter	151	DEIS	2(B,C,D,E), 3(B), 4(A), 12(D)
II. PERSONAL COMMUNICATION		Bectern	Rose		Form Letter #1	80	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Bedford	Tamera		Personal Letter	5420	SDEIS	17, 23(C,AA), 24(B), 26, 28(F), 33
II. PERSONAL COMMUNICATION		Belknap	Russel L.	Lakewood, CO	Personal E-Mail	518	DEIS	1, 14(A)

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
II. PERSONAL COMMUNICATION		Bell	Amy	Buffalo, NY/Georgetown, CO	Form Letter #2	5336	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Bell	Richard	Georgetown, CO	Comment Sheet	508	DEIS	4(C), 7(A), 9(F)
II. PERSONAL COMMUNICATION		Bellerson	Rebecca	Littleton, CO	Personal Letter	217	DEIS	11
II. PERSONAL COMMUNICATION		Bennent	Steve & Maureen	Georgetown, CO	Personal Letter	218	DEIS	2(D), 5(A,B,C,E), 8(E,F,G), 9(B)
II. PERSONAL COMMUNICATION		Bennett	Maurn		Form Letter #5	5398	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Bennett	Steve	Georgetown, CO	Personal Letter	5291	SDEIS	12(D)
II. PERSONAL COMMUNICATION		Bennett	Steve and Maureen		Personal Letter	5433	SDEIS	2(A,D), 8, 9(B), 17, 23(F,J)
II. PERSONAL COMMUNICATION		Benshoft	Pat	Bailey, CO	Comment Sheet	5199	SDEIS	24(B), 30(A)
II. PERSONAL COMMUNICATION		Bente	James	Denver, CO	Personal Letter	32	DEIS	2(B), 3(B), 4(E), 8(D), 9(F)
II. PERSONAL COMMUNICATION		Bente	James W.	Denver, CO	Personal Letter	5295	SDEIS	2(E)
II. PERSONAL COMMUNICATION		Berteau	Paul S.		Personal Letter	535	DEIS	2(D), 3(J), 12(A)
II. PERSONAL COMMUNICATION		Bertolli	Rita	Lakewood, CO	Personal Letter	33	DEIS	1, 2(A,B,C), 3(G), 9(C), 12(D,E)
II. PERSONAL COMMUNICATION		Bitner	Kelly	Denver, CO	Personal Letter	219	DEIS	2(A), 4(D), 7(D)
II. PERSONAL COMMUNICATION		Blau	George	Denver, CO	Personal Letter	220	DEIS	3(J), 12(D)
II. PERSONAL COMMUNICATION		Blau	Reiwen		Personal Letter	221	DEIS	12(D)
II. PERSONAL COMMUNICATION		Bleesz-Young	Mary Pat	Georgetown, CO	Personal Letter	5209	SDEIS	10(C), 11, 22
II. PERSONAL COMMUNICATION		Boak/Keller	Sean/Linda	Denver, CO	Personal Letter	536	DEIS	12(D)
II. PERSONAL COMMUNICATION		Bode	Alletta	Bailey, CO	Comment Sheet	5201	SDEIS	3(A), 17, 26
II. PERSONAL COMMUNICATION		Bohing	Millard & Helen		Form Letter #1	81	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Bolan	William, T.	Aurora, CO	Personal Letter	222	DEIS	10(A), 11

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
II. PERSONAL COMMUNICATION		Boll	Janis	Georgetown, CO	Comment Sheet	4	DEIS	10(B), 12(A,D), 15(A)
II. PERSONAL COMMUNICATION		Borneman	Walter, R.	Evergreen, CO	Personal Letter	223	DEIS	2(A,D), 3(H,I), 12(A,D,E)
II. PERSONAL COMMUNICATION		Borneman	Walter, R.	Evergreen, CO	Personal Letter	702	DEIS	2(A,D), 3(H,I), 12(A,D,E)
II. PERSONAL COMMUNICATION		Bostick	Neely H.		Personal Letter	5474	SDEIS	12(D), 16(D), 28(D,E)
II. PERSONAL COMMUNICATION		Boucke	Laurie	Lafayette, CO	Personal Letter	537	DEIS	7(D)
II. PERSONAL COMMUNICATION		Bowen	Daniel C.	Denver, CO	Form Letter #2	5126	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Bradford	Charles		Personal Letter	5418	SDEIS	23(C), 24(A,B), 26, 33, 35
II. PERSONAL COMMUNICATION		Bradley	Melissa	Denver, CO	Personal Letter	538	DEIS	3(A), 4(A), 8(E)
II. PERSONAL COMMUNICATION		Braub	Sharon		Form Letter #1	82	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Brauch	Sharon	Westminster, CO	Form Letter #4	5277	SDEIS	2(A), 4(F), 5(C), 16, 28(F,H), 29
II. PERSONAL COMMUNICATION		Brenneman	Janet		Form Letter #5	5403	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Brever	Lawrence	Denver, CO	Form Letter #2	5385	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Brinkman	Jackie	Denver, CO	Form Letter #2	5119	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Broadhurst	Janet and Henry P.		Personal Letter	5760	SDEIS	12(A), 24(B), 29(A,C), 33
II. PERSONAL COMMUNICATION		Brooks	Koleen		Personal Letter	5488	SDEIS	3(B), 12(G), 16(C)
II. PERSONAL COMMUNICATION		Broussard	Bennett		Personal Letter	5427	SDEIS	3(A), 26(A)
II. PERSONAL COMMUNICATION		Brown	Byron & Carol	LaBarge, WY	Personal Letter	224	DEIS	11
II. PERSONAL COMMUNICATION		Brown	Roz		Personal Email	5362	SDEIS	3(A), 12(I)
II. PERSONAL COMMUNICATION		Brune	Renee	Golden, CO	Comment Sheet	199	DEIS	2(A,B,C,D), 3(D), 8(B,C,E)
II. PERSONAL COMMUNICATION		Buckland	Phil	Empire, CO	Comment Sheet	5	DEIS	1, 5(C), 14(A)

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
II. PERSONAL COMMUNICATION		Buckland	Phil		Personal Letter	5450	SDEIS	10(A), 11(C), 22
II. PERSONAL COMMUNICATION		Buckland	Sally Guanella	Empire, CO	Comment Sheet	6	DEIS	11
II. PERSONAL COMMUNICATION		Buckland	Sally Guanella	Empire, CO	Personal Letter	539	DEIS	10(A,B)
II. PERSONAL COMMUNICATION		Buckland	Sally Guanella		Personal Letter	5446	SDEIS	11, 22
II. PERSONAL COMMUNICATION		Buckley	Karel	Evergreen, CO	Personal Letter	225	DEIS	2(B,D,E), 3(I), 4(A), 5(A,B,E), 8(G), 9(C), 12(E,I)
II. PERSONAL COMMUNICATION		Budny	Scott	Conifer, CO	Personal Letter	226	DEIS	11
II. PERSONAL COMMUNICATION		Budny	Scott	Conifer, CO	Personal Letter	5285	SDEIS	10(A,B), 18, 26(B)
II. PERSONAL COMMUNICATION		Burdich	Joan		Form Letter #1	83	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Burk	Mr. and Mrs. Gerald D	Bailey, CO	Comment Sheet	509	DEIS	3(E), 7(A), 8(G), 12(A)
II. PERSONAL COMMUNICATION		Burnap	Parry W.		Personal Letter	5417	SDEIS	24(A,B), 26, 33, 35
II. PERSONAL COMMUNICATION		Burrows	Richard W.		Comment Sheet	510	DEIS	2(D), 4(E), 12(A,B,E)
II. PERSONAL COMMUNICATION		Calhoun	John	Silver Plume, CO	Personal Letter	540	DEIS	1, 2(F), 4(A,E), 6(A,D), 8(G)
II. PERSONAL COMMUNICATION		Calhoun	John	Silver Plume, CO	Personal Letter	703	DEIS	1, 2(F), 4(A,E), 6(A,D), 8(G)
II. PERSONAL COMMUNICATION		Callison	Anne W.	Denver, CO	Personal Letter	152	DEIS	1, 3(E), 3(B,J), 8(A,E)
II. PERSONAL COMMUNICATION		Callison	Anne W.		Personal Letter	5426	SDEIS	2(A), 3(A), 8(G), 17
II. PERSONAL COMMUNICATION		Campbell	Carolyn L.		Form Letter #1	253	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		CampCrow			Personal E-Mail	24	DEIS	2(A,B,E)
II. PERSONAL COMMUNICATION		Campo	Mike	Boulder, CO	Personal Letter	541	DEIS	8(E), 12(A,D,E,I)
II. PERSONAL COMMUNICATION		Capps	Wes and Carol		Form Letter #3	5524	SDEIS	23(N,D,P,T), 26, 28(F,H), 29(F)
II. PERSONAL COMMUNICATION		Capps	Wes and Carol		Form Letter #5	5541	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
II. PERSONAL COMMUNICATION		Capps	Wes and Carol		Form Letter #5	5756	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Capps	Wes and Carol		Form Letter #5	5790	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Capps	Wes and Carol		Form Letter #5	5791	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Carberry	Eva		Personal Email	5808	SDEIS	10(A,B), 11
II. PERSONAL COMMUNICATION		Carman	Betty	San Francisco, CA	Personal Letter	35	DEIS	2(E), 8(C), 9(C), 12(E)
II. PERSONAL COMMUNICATION		Carman	Betty Criley	San Francisco, CA	Personal Letter	5233	SDEIS	2(D), 5(E), 12(D), 26(A), 28(A)
II. PERSONAL COMMUNICATION		Carman	Betty Criley	Georgetown, CO/San Francisco, CA	Form Letter #2	5257	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Carmen	Betty Criley		Form Letter #5	5806	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Carpenter	James R.	Zionsville	Personal Letter	5193	SDEIS	3(A), 17, 26
II. PERSONAL COMMUNICATION		Carpenter	Jim and Nancy	Zionsville, IN	Personal Letter	153	DEIS	2(B,C), 8(B,C,E)
II. PERSONAL COMMUNICATION		Carpenter	Nancy	Zionsville	Personal Letter	5194	SDEIS	2(A), 3(B), 17, 26
II. PERSONAL COMMUNICATION		Carper	Robert L. and Carol Joy		Personal Letter	5481	SDEIS	2(D), 3(B), 8(G), 12(D), 29(A), 33
II. PERSONAL COMMUNICATION		Cassella	John	Denver, CO	Personal Letter	5367	SDEIS	8
II. PERSONAL COMMUNICATION		Chamberlain	Robert M.		Personal Letter	5410	SDEIS	3(A), 8(B)
II. PERSONAL COMMUNICATION		Chambers	Roberta	Denver, CO	Personal Letter	5371	SDEIS	2(C), 3(A), 33
II. PERSONAL COMMUNICATION		Chandler	Polly		Personal Letter	542	DEIS	3(D), 4(A), 5(E), 12(A)
II. PERSONAL COMMUNICATION		Chandler	Polly		Personal Letter	5780	SDEIS	8, 16(C), 23(Z), 26
II. PERSONAL COMMUNICATION		Chastain	Andrew	Norcross, CO	Personal Letter	5188	SDEIS	3(A), 16(C), 17
II. PERSONAL COMMUNICATION		Christianmen	Chas		Personal Letter	5423	SDEIS	2(C), 16(B), 26
II. PERSONAL COMMUNICATION		Church	Kasey	Grant, CO	Comment Sheet	5200	SDEIS	4(E), 17, 26, 28(A,F)

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
II. PERSONAL COMMUNICATION		Ciancaglini	Alex	Denver, CO	Personal Letter	227	DEIS	1, 2(D), 7(D)
II. PERSONAL COMMUNICATION		Clark	Mary Riddle		Form Letter #2	5512	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Clark	Rich	Georgetown, CO	Personal Letter	5286	SDEIS	10(A,B,C), 11
II. PERSONAL COMMUNICATION		Clifford	Clara		Personal Letter	5359	SDEIS	2(A,D),12(I) , 16C, 28(B,G)
II. PERSONAL COMMUNICATION		Clifford	Clara J.		Form Letter #5	5792	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Clifford	Clara, J.	Georgetown, CO	Personal Letter	228	DEIS	2(B,C), 8(E), 12(F)
II. PERSONAL COMMUNICATION		Coletti	Ann Trelease		Form Letter #5	5800	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Coletti	Ann Trelease		Form Letter #5	5805	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Conley	Paula		Personal Letter	5412	SDEIS	2(A,C), 3(A), 24(B), 26
II. PERSONAL COMMUNICATION		Conley	Paula		Personal Letter	5413	SDEIS	23(C,D,P), 28, 33
II. PERSONAL COMMUNICATION		Conley	Paula		Personal Letter	5771	SDEIS	12(D), 16(C,D), 23(P), 26
II. PERSONAL COMMUNICATION		Connolly	Gregory, M.	Denver, CO	Personal Letter	229	DEIS	2(A,D,E), 3(A), 12(E,I)
II. PERSONAL COMMUNICATION		Connor	Paula	Morrison, CO	Personal Letter	543	DEIS	2(B,C,E), 3(B,D)
II. PERSONAL COMMUNICATION		Conway	Kathleen		Personal Letter	5763	SDEIS	17
II. PERSONAL COMMUNICATION		Cordova			Form Letter #1	84	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Corkern	Trey	Grant, CO	Personal Letter	36	DEIS	2(A,D,E), 3(A,B,E,F), 4(A,E), 15(C)
II. PERSONAL COMMUNICATION		CT and Coletti	Rob and Anne Trelease	Georgetown, CO	Form Letter #2	5254	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Cunningham	Kirk	Boulder, CO	Personal Letter	230	DEIS	2(B,C), 8(D,G), 12(A,D,I), 16(E)
II. PERSONAL COMMUNICATION		Curran	Carol		Form Letter #2	5511	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Dafary	Dennis M.		Personal Letter	5454	SDEIS	8(G), 12(D)



COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
II. PERSONAL COMMUNICATION		Daley	Andy	Ridgeway , CO	Personal Letter	5187	SDEIS	8(G)
II. PERSONAL COMMUNICATION		Dallas	Sandra	Denver, CO	Personal Letter	37	DEIS	1, 2(A,D), 3(B,E), 4(D)
II. PERSONAL COMMUNICATION		Dallas	Sandra		Form Letter #5	5406	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Dallas	Sandra		Form Letter #5	5528	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Damoc	Chester, J.	Denver, CO	Personal Letter	231	DEIS	11
II. PERSONAL COMMUNICATION		Davia	David and Deborah		Personal Letter	5502	SDEIS	2(B), 26
II. PERSONAL COMMUNICATION		Davidson	Mary Ellen		Personal Letter	5303	SDEIS	2(A),12(A)
II. PERSONAL COMMUNICATION		Davis	Carolyn	Bloomington, IN	Form Letter #2	5328	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Davis	Jerry	Fairplay, CO	Comment Sheet	200	DEIS	10(A), 11, 18
II. PERSONAL COMMUNICATION		Davis	Jerry	Fairplay, CO	Personal Letter	5214	SDEIS	17, 28(F,G)
II. PERSONAL COMMUNICATION		Davis	Susan		Form Letter #2	5389	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Day	Peggy		Form Letter #1	85	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		De Lange	CJ	Bailey, CO	Personal Letter	5282	SDEIS	10(B), 11, 22(A)
II. PERSONAL COMMUNICATION		Dean	Karen		Personal Letter	5761	SDEIS	17, 23(L), 24(B), 26, 33, 35
II. PERSONAL COMMUNICATION		Dean	Karen L.		Form Letter #2	5395	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Dean	Karen, L.	Georgetown, CO	Personal Letter	232	DEIS	3(A,D,J), 12(I)
II. PERSONAL COMMUNICATION		DeCola	Julie		Personal Letter	544	DEIS	4(A), 12(E)
II. PERSONAL COMMUNICATION		Delange	Betty	Lakewood, CO	Personal Letter	545	DEIS	3(D,H)
II. PERSONAL COMMUNICATION		Dennily	Owen		Form Letter #2	5516	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Dennily	Owen		Form Letter #6	5546	SDEIS	3(A), 24(B), 26, 33

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
II. PERSONAL COMMUNICATION		Deszcz-Pan	Maria	Lakewood, CO	Personal Letter	546	DEIS	12(A)
II. PERSONAL COMMUNICATION		Diblan	Tiffany	Bailey, CO	Comment Sheet	5210	SDEIS	17, 28(A,F)
II. PERSONAL COMMUNICATION		Divis	Pat	Bailey, CO	Comment Sheet	7	DEIS	3(B), 12(A,D)
II. PERSONAL COMMUNICATION		Domely	Owen		Form Letter #5	5794	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Dorsey	Vivian D		Form Letter #1	254	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Dugan	Megan	Grant, CO	Comment Sheet	201	DEIS	4(A), 8(B,E)
II. PERSONAL COMMUNICATION		Dugan	Megan		Personal Letter	5460	SDEIS	2(C), 3(A), 8(D), 16(C,D,E), 17, 24(B), 26
II. PERSONAL COMMUNICATION		Dugan	Scott	Grant, CO	Comment Sheet	202	DEIS	2(D), 3(A), 8(E)
II. PERSONAL COMMUNICATION		Dugan	Scott		Personal Letter	5459	SDEIS	2(A,C), 5(E), 23(D,L,O), 24(A), 26
II. PERSONAL COMMUNICATION		Dunn	Earnest		Personal Letter	5204	SDEIS	17
II. PERSONAL COMMUNICATION		Dworkin	Manny and Sally	Denver, CO	Personal Letter	155	DEIS	2(A,B,C), 3(B,J), 8(A,E)
II. PERSONAL COMMUNICATION		Dyer	Jennifer		Form Letter #1	86	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Dyer	Jennifer	Denver, CO	Form Letter #4	5379	SDEIS	2(A), 4(F), 5(C), 16, 28(F,H), 29
II. PERSONAL COMMUNICATION		Dyer	Jennifer	Denver, CO	Form Letter #4	5396	SDEIS	2(A), 4(F), 5(C), 16, 28(F,H), 29
II. PERSONAL COMMUNICATION		Eckard	Roberta and Henry		Form Letter #5	5401	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Eckels	Nini		Personal Letter	5408	SDEIS	10(A), 11
II. PERSONAL COMMUNICATION		Edwards	Laura		Form Letter #1	87	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Eisenman	Thomas R.	Bailey, CO	Comment Sheet	5198	SDEIS	12(D,I), 17, 29(D), 33
II. PERSONAL COMMUNICATION		Elliott	Robert B.	Lakewood, CO	Personal Letter	5239	SDEIS	2(D), 3(A), 12(D), 26
II. PERSONAL COMMUNICATION		Elliott	Thomas S.		Personal Letter	5437	SDEIS	2(A), 3(A), 8(D), 12(D), 24(B), 28(B,H)

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
II. PERSONAL COMMUNICATION		Ells	Sharon	Lakewood, CO	Personal Letter	547	DEIS	2(A,D), 3(A), 5(E), 7(A), 8(C)
II. PERSONAL COMMUNICATION		Emanuel	Carolyn		Personal Letter	5248	SDEIS	26
II. PERSONAL COMMUNICATION		Emerson	Julie	Evergreen, CO	Personal Letter	5238	SDEIS	3(A), 16(B,C,D), 23(Q), 28(D,F), 29(A)
II. PERSONAL COMMUNICATION		Esson	Anne, L.	Vail, CO	Personal Letter	234	DEIS	2(A,B,C), 5(A), 8(B), 9(E)
II. PERSONAL COMMUNICATION		Fabyanic	Jerry	Georgetown, CO	Personal Letter	38	DEIS	2(B,C,D,E), 3(A,E,H,J), 8(A,D), 9(F), 12(A,E)
II. PERSONAL COMMUNICATION		Fabyanic	Jerry		Personal Letter	5482	SDEIS	8(D), 9(C), 24(B), 26
II. PERSONAL COMMUNICATION		Fallat	Ann Gray	Santa Ana, CA	Personal Letter	704	DEIS	3(I,J),12(H,I)
II. PERSONAL COMMUNICATION		Fallet	Ann Grey	Santa Anna, CA	Personal Letter	548	DEIS	2(E), 3(J), 12(I)
II. PERSONAL COMMUNICATION		Farny	Dave	Telluride, CO	Personal Letter	39	DEIS	8(E), 9(B,C)
II. PERSONAL COMMUNICATION		Farrow	Anne, C.	Georgetown, CO	Personal Letter	235	DEIS	2(C), 5(A), 8(B), 12(A,D,E), 14(A)
II. PERSONAL COMMUNICATION		Fawcett	James	Littleton, CO	Personal Letter	236	DEIS	10(A), 11
II. PERSONAL COMMUNICATION		Feikin	Daniel	Evergreen, CO	Personal Letter	40	DEIS	2(A,D), 3(A),8(E), 12(A,D,E,I)
II. PERSONAL COMMUNICATION		Fennessey	Shirley	Pine, CO	Form Letter #2	5129	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Figley	Betty	Empire, CO	Personal Letter	237	DEIS	7(A), 12(E)
II. PERSONAL COMMUNICATION		Finney	Terri	Denver, CO	Form Letter #2	5117	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Fintus	Lila		Form Letter #2	5394	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Fitzpatrick	Yvonne M.	Lakewood, CO	Form Letter #2	5122	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Ford	Gregory		Personal Letter	5360	SDEIS	10(A), 11, 22
II. PERSONAL COMMUNICATION		Ford	Rob		Form Letter #1	627	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Fox	Allen & Katie	Morrison, CO	Personal Letter	549	DEIS	8(E), 9(C)

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
II. PERSONAL COMMUNICATION		Fox	Kate and Alan	Morrison, CO	Form Letter #2	5127	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Fox	Micheal	Lakewood, CO	Comment Sheet	511	DEIS	3(E), 8(G), 12(A)
II. PERSONAL COMMUNICATION		Fox	Susan	Denver, CO	Personal Letter	550	DEIS	8(E)
II. PERSONAL COMMUNICATION		Fraley	Pattie		Form Letter #3	5264	SDEIS	23(N,D,P,T), 26, 28(F,H), 29(F)
II. PERSONAL COMMUNICATION		Fraley	Pattie	Georgetown, CO	Form Letter #5	5269	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Fraser	Margaret		Personal Letter	5324	SDEIS	8(G), 26, 35
II. PERSONAL COMMUNICATION		Frasier	Bill and Gail	Evergreen, CO	Personal Letter	5356	SDEIS	2(D), 8(G), 9(C), 28(F), 33
II. PERSONAL COMMUNICATION		Gant	Donovan L.		Personal Letter	551	DEIS	2(D), 4(A), 8(2), 12(I)
II. PERSONAL COMMUNICATION		Gardner	Mr. And Mrs. Ronald E.	Morrison, CO	Personal Letter	552	DEIS	11
II. PERSONAL COMMUNICATION		Georing	Ruben		Personal Letter	5779	SDEIS	16(C),17,23(R),26,28(B,H)
II. PERSONAL COMMUNICATION		Gidlow	Lilla		Personal Letter	5428	SDEIS	3(A), 5(E), 12(A), 23(C,F)
II. PERSONAL COMMUNICATION		Gilbert	Linda		Form Letter #1	88	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Gilmore	Mary A.	Empire, CO/Denver, CO	Personal Letter	553	DEIS	8(G), 12(A)
II. PERSONAL COMMUNICATION		Ginley	Roberta	Evergreen, CO	Personal Letter	238	DEIS	2(B,C,D), 5(A,B), 8(G), 16(A,D)
II. PERSONAL COMMUNICATION		Ginley	Roberta		Personal Letter	5476	SDEIS	2(A,D), 3(A), 23(S), 26, 28(E), 29(A)
II. PERSONAL COMMUNICATION		Glaser	Rose		Personal Letter	5493	SDEIS	10(A), 11(C), 22
II. PERSONAL COMMUNICATION		Goeringer	Rube	Georgetown, CO	Personal Letter	894	DEIS	1, 2(B,C,D), 5(B,E), 8(E), 9(C,E), 13(A,B), 15(A,B)
II. PERSONAL COMMUNICATION		Goeringer	Ruben		Personal Letter	5755	SDEIS	2(A,D), 5(E), 9(B,E), 12(G), 16(B,C), 28, 32
II. PERSONAL COMMUNICATION		Goldstein	Nathan	Denver, CO	Personal Letter	42	DEIS	8(E)
II. PERSONAL COMMUNICATION		Gordon	Bill	Fairplay, CO	Comment Sheet	8	DEIS	1, 2(C)

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
II. PERSONAL COMMUNICATION		Gordon	Bill		Comment Sheet	5197	SDEIS	3(B), 28(A,F), 29(D)
II. PERSONAL COMMUNICATION		Gordon	James R.		Personal Letter	5225	SDEIS	2(A), 33
II. PERSONAL COMMUNICATION		Gordon	Jim		Personal Letter	5217	SDEIS	2(A), 23(S,O,N,K,E), 24(B), 28(A,F,G)
II. PERSONAL COMMUNICATION		Gordon	Jim	Grant, CO	Personal Letter	5234	SDEIS	4(E), 24(B), 32
II. PERSONAL COMMUNICATION		Gordon	Jim	Grant, CO	Personal Letter	5235	SDEIS	5(E), 28(A), 29
II. PERSONAL COMMUNICATION		Gordon	Jim	Grant, CO	Personal Letter	554	DEIS	1, 6(A), 15(B,D), 16(A,B,C,E)
II. PERSONAL COMMUNICATION		Gordon	Jim	Grant, CO	Personal Letter	555	DEIS	3(A), 5(A,B,E), 6(A,B), 9(B)
II. PERSONAL COMMUNICATION		Gordon	Jim	Grant, CO	Personal Letter	556	DEIS	1, 4(E), 6(A,B,C)
II. PERSONAL COMMUNICATION		Gordon	Jim	Grant, CO	Personal Letter	557	DEIS	1
II. PERSONAL COMMUNICATION		Gordon	Jim	Grant, CO	Personal Letter	558	DEIS	1, 2(B), 4(E), 6(A,B,D,E), 8(C,G), 16(B)
II. PERSONAL COMMUNICATION		Gordon	Jim	Grant, CO	Personal Letter	559	DEIS	6(A), 9(B)
II. PERSONAL COMMUNICATION		Gordon	Jim		Personal Letter	560	DEIS	1, 4(A,E)
II. PERSONAL COMMUNICATION		Gordon	Jim		Personal Letter	561	DEIS	1, 3(F), 5(B), 9(D), 15(C,D), 16(C)
II. PERSONAL COMMUNICATION		Gordon	Kevin and Whitney	Indiana IN	Personal Letter	5185	SDEIS	1, 2(A), 17, 26
II. PERSONAL COMMUNICATION		Gordon	Mary		Personal Letter	43	DEIS	3(A,F,J), 5(C), 8(D)
II. PERSONAL COMMUNICATION		Gordon	Rob	Grant, CO	Comment Sheet	142	DEIS	1, 2(A), 3(D,F), 4(A,E), 5(A,C,E), 8(F,G), 9(B,E,F,G), 12(D), 15(B,D), 16(C,D,E)
II. PERSONAL COMMUNICATION		Gottschalk	Elizabeth		Form Letter #1	89	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Gottschalk	Libbie	Littleton, CO	Form Letter #4	5279	SDEIS	2(A), 4(F), 5(C), 16, 28(F,H), 29
II. PERSONAL COMMUNICATION		Gottschalk	Libbie	Georgetown, CO	Form Letter #5	5353	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Gottschalk	Libbie	Georgetown, CO	Form Letter #5	5387	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
II. PERSONAL COMMUNICATION		Gottschalk	Libbie	Georgetown, CO	Form Letter #5	5397	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Gottschalk	N.J.		Personal E-Mail	25	DEIS	2(E), 3(A,B,J), 8(E)
II. PERSONAL COMMUNICATION		Gottshalk	Libbie	Littleton & Georgetown, CO	Personal Letter	5223	SDEIS	3(B), 17, 23(A,J,F,U,T)
II. PERSONAL COMMUNICATION		Gottshalk			Form Letter #1	174	DEIS	2(B,C,D,E), 3(A), 12(E,J), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Gottshalk			Form Letter #1	175	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Graham	Geoffrey	Lisle, IL	Personal Letter	239	DEIS	2(A), 3(A,J), 5(E), 7(E), 16(E)
II. PERSONAL COMMUNICATION		Graham	Geoffry		Form Letter #2	5381	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Graham			Form Letter #1	90	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Grebe	Don A.	Lakewood, CO	Comment Sheet	9	DEIS	7(B,G)
II. PERSONAL COMMUNICATION		Grebe	Kathleen	Lakewood, CO	Comment Sheet	10	DEIS	2(A), 3(B), 12(A,D), 15(B)
II. PERSONAL COMMUNICATION		Guarella	Glenda M.		Personal Letter	5452	SDEIS	11
II. PERSONAL COMMUNICATION		Gulley	J.L and Jean	Georgetown, CO	Form Letter #5	5272	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Gulley	Mr & Mrs James	Tyler	Personal Letter	5240	SDEIS	3(A,B), 12(D), 28(B)
II. PERSONAL COMMUNICATION		Gulley	Mr & Mrs James L.	Georgetown, CO	Personal Letter	44	DEIS	2(A,B,E), 9(B,C), 12(E,I)
II. PERSONAL COMMUNICATION		Gustafson	Jeffry, A.	Evergreen, CO	Personal Letter	240	DEIS	2(A,C,E,F,G), 3(B,J), 5(B), 8(A,D)
II. PERSONAL COMMUNICATION		Gusteiman	Kate	Georgetown, CO/ Santa Fe, NM	Form Letter #2	5262	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Guyenn	Peter C. and Caroline C.	Denver, CO	Personal Letter	562	DEIS	2(A,B), 3(A), 4(A), 5(B), 9(B), 12(A)
II. PERSONAL COMMUNICATION		Hadley/Shanley	Barbara M./Phillip R.	Evergreen, CO	Personal Letter	241	DEIS	4(A), 12(A)
II. PERSONAL COMMUNICATION		Hamilton	Laurie		Personal Letter	157	DEIS	2(B), 8(G), 12(E)

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
II. PERSONAL COMMUNICATION		Hamilton	Laurie		Personal Letter	5473	SDEIS	2(A), 8(G), 12(G), 28(E), 29(A)
II. PERSONAL COMMUNICATION		Harper	Triena Merydith	Indian Hills, CO	Personal Letter	563	DEIS	2(A,B,C), 4(A), 5(E), 9(C), 12(A)
II. PERSONAL COMMUNICATION		Harris	Melone and Carl		Personal Letter	5492	SDEIS	2(A), 3(B), 4(E)
II. PERSONAL COMMUNICATION		Hartong	Bill & Elaine	Georgetown, CO	Personal Letter	242	DEIS	2(C,E), 3(J), 5(B), 7(A,G)
II. PERSONAL COMMUNICATION		Hartong	E. Elaine & Ted	Georgetown, CO	Form Letter #2	5256	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Harvey	Edward W.	Grant, CO	Personal Letter	45	DEIS	2(A,D), 3(A,F), 5(A,C),8(E)
II. PERSONAL COMMUNICATION		Harvey	Edward W.	Grant, CO	Personal Letter	705	DEIS	2(A,D), 3(A,F), 5(A,C), 8(E)
II. PERSONAL COMMUNICATION		Haskell	Kirk		Form Letter #2	5513	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Haskell	Kirk		Form Letter #6	5543	SDEIS	3(A), 24(B), 26, 33
II. PERSONAL COMMUNICATION		Hatch	Dorothy	Conifer, CO	Personal Letter	243	DEIS	2(C), 3(A), 12(A,E,I)
II. PERSONAL COMMUNICATION		Hatcher	David H.		Personal Letter	5506	SDEIS	8(G),12(I), 24(A), 28(E), 33
II. PERSONAL COMMUNICATION		Hauser	Ken W.	Evergreen, CO	Personal Letter	244	DEIS	1, 2(B,C,D), 3(A,H), 4(D), 5(A), 7(A,E), 12(E)
II. PERSONAL COMMUNICATION		Hawkins	Kate	Georgetown, CO/Cedar Rapids, CO/LA	Personal Letter	564	DEIS	3(B,D), 5(E), 8(G), 12(A)
II. PERSONAL COMMUNICATION		Hawkins	Kate	Georgetown, CO/Cedar Rapids, IA	Form Letter #2	5334	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Hawkins	Kate		Form Letter #5	5803	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Hector	Louise	Denver, CO	Personal Letter	565	DEIS	8(E)
II. PERSONAL COMMUNICATION		Hegg	Heather		Form Letter #2	5391	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Helmstetter	Paul	Littleton, CO	Personal Letter	566	DEIS	3(A), 7(A)
II. PERSONAL COMMUNICATION		Henderson	Donita H.	Northport, AL	Personal Letter	245	DEIS	2(D,E), 3(A), 15(A)

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
II. PERSONAL COMMUNICATION		Henning	William	Littleton, CO	Comment Sheet	143	DEIS	8(B,E,G), 9(C), 12(G)
II. PERSONAL COMMUNICATION		Henning	William	Highlands Ranch, CO	Personal Email	5251	SDEIS	8(G), 26
II. PERSONAL COMMUNICATION		Henning	William A.	Highlands Ranch, CO	Personal Letter	5232	SDEIS	8(G), 12(H)
II. PERSONAL COMMUNICATION		Hershberger	Ruth	Evergreen, CO	Personal Letter	246	DEIS	2(C), 8(E), 9(C)
II. PERSONAL COMMUNICATION		Hershberger	Ruth	Evergreen, CO	Personal Letter	5317	SDEIS	2(A), 12(A), 26(A)
II. PERSONAL COMMUNICATION		Heyse	Don	Fort Collins, CO	Personal E-Mail	519	DEIS	2(A,E,F), 3(A,H,J), 5(A,E), 7(A), 8(E,F), 9(F), 12(I)
II. PERSONAL COMMUNICATION		Heyse	Don		Personal Letter	5466	SDEIS	2(A,B,E), 5(E), 7(G), 8(C,G), 9, 16(D), 17, 23, 24(A), 25, 26(A), 29(A)
II. PERSONAL COMMUNICATION		Hickon	Gail	Denver, CO	Form Letter #2	5331	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Higgins	Sally M.	Pine, CO	Personal Letter	5373	SDEIS	2(A,B,D), 3(A), 5(E,B), 17, 24(B), 26(A), 28(A,F,D)
II. PERSONAL COMMUNICATION		Hisgen	Harv	Golden, CO	Personal E-Mail	520	DEIS	14(A,C)
II. PERSONAL COMMUNICATION		Hodges	Alice		Personal Letter	5762	SDEIS	8(G), 26
II. PERSONAL COMMUNICATION		Holmes	Julie		Personal Letter	5453	SDEIS	10(A), 11, 26(B)
II. PERSONAL COMMUNICATION		Hopkins	Wilson	Denver, CO	Comment Sheet	144	DEIS	1, 2(B), 3(A,D), 5(A), 8(B,F), 9(A,G), 15(B)
II. PERSONAL COMMUNICATION		Hopkins	Wilson	Denver, CO	Personal Letter	158	DEIS	1, 3(C), 4(A), 8(D), 9(C), 12(A)
II. PERSONAL COMMUNICATION		Hopkins	Wilson B.	Grant, CO	Personal Letter	5323	SDEIS	2(D), 28(L)
II. PERSONAL COMMUNICATION		Horwitz	Lawrence	Denver, CO	Personal Letter	247	DEIS	11
II. PERSONAL COMMUNICATION		Howell	Jan	Idaho Springs, CO	Comment Sheet	11	DEIS	3(A,B,D), 4(A,D)
II. PERSONAL COMMUNICATION		Howell	Jan and M. Sue		Personal Letter	5416	SDEIS	5(E), 17, 24(A,B), 26(A), 28(D)
II. PERSONAL COMMUNICATION		Huber	Patrick	Florissant, CO	Personal Letter	159	DEIS	2(C,D,E), 3(A,J), 4(A), 7(A,D,E)
II. PERSONAL COMMUNICATION		Huestis	Robert	Evergreen, CO	Personal Letter	567	DEIS	1, 2(B,C,D), 3(H)



COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
II. PERSONAL COMMUNICATION		Hughes	K.A.	Indianapolis, IN	Personal E-Mail	26	DEIS	2(A,D), 3(J), 8(E), 12(H)
II. PERSONAL COMMUNICATION		Hughes	Ralph M. & Mary Sue	Muncie, IN	Personal Letter	248	DEIS	2(B), 8(B,D,E)
II. PERSONAL COMMUNICATION		Hugo	Richard	Aurora, CO	Personal Email	5249	SDEIS	2(A,B,C,E), 3(A)
II. PERSONAL COMMUNICATION		Hume	Amy & Chad	Golden, CO	Personal Letter	5292	SDEIS	8(B,G), 17, 26
II. PERSONAL COMMUNICATION		Hume	Dorothy		Personal Letter	5507	SDEIS	8, 33
II. PERSONAL COMMUNICATION		Hume	Scot	Colorado Springs, CO	Personal Letter	46	DEIS	4(D), 12(D,E)
II. PERSONAL COMMUNICATION		Hume	Scot W.	Colorado Springs, CO	Personal Letter	5307	SDEIS	12(A), 26(A)
II. PERSONAL COMMUNICATION		Hun	Kimberly		Form Letter #1	91	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Hunninen	Katherine	Silver Plume, CO	Personal Letter	568	DEIS	1, 2(A,B,C,F), 3(C,D,H), 4(A,B,E), 5(B), 6(A,B,C,D), 7(D), 9(B), 15(B), 16(C,E)
II. PERSONAL COMMUNICATION		Hunt	Robert V.	Littleton, CO	Personal Letter	569	DEIS	2(E), 8(F)
II. PERSONAL COMMUNICATION		Huston	Ron	Evergreen, CO	Personal Letter	570	DEIS	2(B,C)
II. PERSONAL COMMUNICATION		Ikler	Bill	Nederland, CO	Personal Letter	249	DEIS	2(A,E,D), 4(C), 7(A,B,D), 8(D)
II. PERSONAL COMMUNICATION		Ikler	Bill		Personal Letter	5478	SDEIS	2(A), 7(G), 16(D), 24(A), 26(A), 28(A,E,F)
II. PERSONAL COMMUNICATION		Illig	Janice	Evergreen, CO	Personal Letter	250	DEIS	2(B,C,D), 3(A,J), 8(E)
II. PERSONAL COMMUNICATION		Illig	Janice	Evergreen, CO	Personal Letter	5310	SDEIS	2(A), 8(G), 12(A), 26(A), 29
II. PERSONAL COMMUNICATION		Imse	Ann	Morrison, CO	Personal Letter	571	DEIS	2(A,D), 3(A), 9(B)
II. PERSONAL COMMUNICATION		Isenhardt	Myra Warren & Frank	Denver, CO	Personal Letter	251	DEIS	2(A,D,E), 3(A,J), 4(A)
II. PERSONAL COMMUNICATION		Jackson	David F.	Littleton, CO	Personal Letter	5281	SDEIS	10(B), 11
II. PERSONAL COMMUNICATION		Jackson	David F. & Kathleen S.	Littleton, CO	Personal Letter	572	DEIS	10(A,B), 11
II. PERSONAL COMMUNICATION		Jacoby	Charles	Westminster, CO	Comment Sheet	5195	SDEIS	2(A), 26

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
II. PERSONAL COMMUNICATION		James	Lynda	Fairplay, CO	Comment Sheet	145	DEIS	1, 4(A), 13(B)
II. PERSONAL COMMUNICATION		James	Lynda		Personal Letter	5479	SDEIS	3(A), 5(E), 12(G), 16(B,C), 17, 24(A,B), 28(D,E), 29(A)
II. PERSONAL COMMUNICATION		Jarboe	JoLynn		Personal E-Mail	27	DEIS	2(A,C), 3(B), 7(A,G), 8(E)
II. PERSONAL COMMUNICATION		Jarvis	James R.	Kansas City	Personal Letter	5290	SDEIS	26, 33
II. PERSONAL COMMUNICATION		Jausler	John		Personal Letter	5441	SDEIS	26
II. PERSONAL COMMUNICATION		Jay	Kathryn		Form Letter #1	92	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Jeglum	Glenn	Kittredge, CO	Personal Letter	573	DEIS	2(D), 3(A,B), 12(A)
II. PERSONAL COMMUNICATION		Jenkins	Howard	Littleton, CO	Personal Email	5293	SDEIS	2(B,C), 33
II. PERSONAL COMMUNICATION		Jenkins	Susan Worth	Littleton, CO	Personal Letter	252	DEIS	1, 2(A,B,C)
II. PERSONAL COMMUNICATION		Jenkins	Susan Worth	Littleton, CO	Personal Email	5252	SDEIS	2(B,C), 3(A), 12(G)
II. PERSONAL COMMUNICATION		Jensen	Einar N.	Idaho Springs, CO	Personal Letter	449	DEIS	2(A,B,C), 3(H,G), 5(D,E), 9(B), 12(A,E)
II. PERSONAL COMMUNICATION		Jensen	M.E.	Georgetown, CO	Personal Letter	450	DEIS	2(A,D), 3(C,G,J), 15(B)
II. PERSONAL COMMUNICATION		Johnson	Jane Murphy		Form Letter #1	255	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Johnson	Michael	Denver, CO	Personal Letter	574	DEIS	2(A), 12(E)
II. PERSONAL COMMUNICATION		Jones	Pat and Eldora		Personal Letter	5504	SDEIS	2(E), 3(A), 8(D), 35
II. PERSONAL COMMUNICATION		Jones	Susan	Boulder, CO	Personal Letter	160	DEIS	2(A,B,C,E), 8(E)
II. PERSONAL COMMUNICATION		Jorgensen	Dorothy		Form Letter #5	5534	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Joseph	Mark	Mt. Vernon, WA	Form Letter #2	5128	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Juliana			Form Letter #1	93	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Kaderet	Jeff		Personal Letter	5440	SDEIS	12(D), 26

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
II. PERSONAL COMMUNICATION		Kallman	Lisa	Evergreen, CO	Personal Letter	5186	SDEIS	3(A),12(I) , 24(B), 29
II. PERSONAL COMMUNICATION		Kaylor	Joy		Personal Letter	451	DEIS	8(1), 19(2)
II. PERSONAL COMMUNICATION		Keiser	Col. (Ret.) C.P.	Evergreen, CO	Personal Letter	161	DEIS	2(B,C,D), 3(A,D,I), 12(I)
II. PERSONAL COMMUNICATION		Keller	Linda	Denver, CO	Comment Sheet	5203	SDEIS	17, 26, 29
II. PERSONAL COMMUNICATION		Kelley	Kerin		Form Letter #5	5536	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Kelson	Betsy		Personal Letter	575	DEIS	3(J), 7(A,B,D)
II. PERSONAL COMMUNICATION		Kelson	Bitsy		Telephone Conversation Record	5495	SDEIS	3(A), 8(G), 24(A)
II. PERSONAL COMMUNICATION		Kemper	William	Denver, CO	Comment Sheet	12	DEIS	2(A,C), 4C, 5(A,B), 7(A)
II. PERSONAL COMMUNICATION		Kenry	George	Littleton, CO	Personal Letter	576	DEIS	8(E), 9(B,F)
II. PERSONAL COMMUNICATION		Kester	George D.	Crete	Personal Letter	5374	SDEIS	26
II. PERSONAL COMMUNICATION		Kester	Robert C.		Personal Letter	5480	SDEIS	2(E), 3(B), 8(G), 26, 33
II. PERSONAL COMMUNICATION		Kilgallion	Barbara		Personal Letter	5778	SDEIS	8(G,H)
II. PERSONAL COMMUNICATION		Klever	John H M		Personal E-Mail	521	DEIS	10(A,B), 11
II. PERSONAL COMMUNICATION		Knox	Kimberly		Form Letter #2	5515	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Knox	Kimberly		Form Letter #6	5545	SDEIS	3(A), 24(B), 26, 33
II. PERSONAL COMMUNICATION		Knox	Kimberly		Form Letter #5	5795	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Koehler	Suzanne		Form Letter #2	5393	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Kornelson	Mac & Jennie	Aurora, CO	Personal Letter	577	DEIS	2(A,B,C), 3(A), 12(A)
II. PERSONAL COMMUNICATION		Kramer	David	Evergreen, CO	Comment Sheet	512	DEIS	2, 3(A), 12(D)
II. PERSONAL COMMUNICATION		Krause	Kathryn		Personal Letter	5442	SDEIS	8

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
II. PERSONAL COMMUNICATION		Kreider	Jack	Greenwood Village, CO	Form Letter #2	5121	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Krieger	Abba	Carbondale, CO	Personal Letter	452	DEIS	2(A,B,C), 3(A), 12(D)
II. PERSONAL COMMUNICATION		Krueger	John		Form Letter #5	5539	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Krueger	John		Form Letter #6	5547	SDEIS	3(A), 24(B), 26, 33
II. PERSONAL COMMUNICATION		Kruger	Frances		Form Letter #1	94	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Kruger	Frances A.	Golden, CO	Form Letter #4	5275	SDEIS	2(A), 4(F), 5(C), 16, 28(F,H), 29
II. PERSONAL COMMUNICATION		Kruger	Lois and Brent		Personal Letter	5487	SDEIS	2(A), 3(A), 5(F), 16(C,D)
II. PERSONAL COMMUNICATION		Kuehn	Kathleen	Evergreen, CO	Personal Letter	453	DEIS	2(C), 3(C,D), 7(D)
II. PERSONAL COMMUNICATION		Kurath	John and Stacey	Arvada/Jefferson, CO	Personal Letter	454	DEIS	2(A,B), 8(B), 9(C)
II. PERSONAL COMMUNICATION		Lamb	Shaman L	Georgetown, CO	Form Letter #5	5268	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Lambert	Edmund G. and Carol Lee		Personal Letter	5490	SDEIS	2(E,B), 3(A), 8(D), 12(D), 26
II. PERSONAL COMMUNICATION		Lamping	Jim		Personal Letter	5447	SDEIS	4(E)
II. PERSONAL COMMUNICATION		Lamping	Jim		Personal Letter	5448	SDEIS	3(B), 10(A,B,C), 11(C)
II. PERSONAL COMMUNICATION		Lamping	Jim	Grant, CO	Personal Letter	5208	SDEIS	11, 29(D)
II. PERSONAL COMMUNICATION		Landberg	Ronald J.	Georgetown, CO	Form Letter #2	5260	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Landberg	Ronald J.		Form Letter #5	5804	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Landberg	Sandra L.	Georgetown, CO	Form Letter #2	5259	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Landberg	Sandra L.	Georgetown, CO	Form Letter #5	5350	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Lankford	Polly	Georgetown, CO	Comment Sheet	13	DEIS	7(A)
II. PERSONAL COMMUNICATION		Lankford	Polly	Georgetown, CO	Form Letter #5	5352	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
II. PERSONAL COMMUNICATION		Larrick	Louise Gottschalk	Englewood, CO	Personal Letter	455	DEIS	2(D), 3(A,D), 8(G), 12(D,I)
II. PERSONAL COMMUNICATION		Lee	Patricia		Personal Email	5377	SDEIS	2(D), 8(B)
II. PERSONAL COMMUNICATION		Lehrer	Charles	Loveland, CO	Personal Letter	163	DEIS	2(B,E), 3(A,D), 4(A,B), 8(C), 9(C), 12(I), 13(B)
II. PERSONAL COMMUNICATION		Lehrer	Charles "Bud"		Personal Letter	5469	SDEIS	4(E), 12(D), 16(D,E)
II. PERSONAL COMMUNICATION		Lembitz	Deanne	Loveland, CO	Personal Letter	5306	SDEIS	2(A), 3(A), 12(D), 16C, 26(A)
II. PERSONAL COMMUNICATION		Levin	Mark	Idaho Springs, CO	Comment Sheet	513	DEIS	1
II. PERSONAL COMMUNICATION		Levy	Mimi	Denver, CO	Personal Letter	579	DEIS	10(B)
II. PERSONAL COMMUNICATION		Lewis	Margaret		Personal Letter	5439	SDEIS	3(A), 9(C), 24(B)
II. PERSONAL COMMUNICATION		Leyendecker	Liston E. and Barbara B.		Personal Letter	5424	SDEIS	3(A), 8(G), 23(C,P,T), 28(B)
II. PERSONAL COMMUNICATION		Lincoln	Daniel B.	Evergreen, CO	Personal Letter	5354	SDEIS	2(D), 8(G), 9(C), 24(B), 28(A,F), 29(A)
II. PERSONAL COMMUNICATION		Lupe	John		Form Letter #1	628	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Luther	Beth A.	Georgetown, CO	Personal Letter	5286	SDEIS	10(A,B,C), 11
II. PERSONAL COMMUNICATION		Lutz	Katherine M.	Denver, CO	Comment Sheet	514	DEIS	2(A,B,D), 12(D)
II. PERSONAL COMMUNICATION		Mainquish	Linda		Form Letter #1	95	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Malk	Diane	Denver, CO	Form Letter #2	5125	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Mann	Kathryn & Timothy	Arvada, CO	Personal Letter	456	DEIS	3(A,G), 4(A), 7(A)
II. PERSONAL COMMUNICATION		Markovitz	Laurie	Georgetown, CO	Personal Letter	164	DEIS	2(A,C,D), 3(A,D,J), 4(A), 12(D,E)
II. PERSONAL COMMUNICATION		Markowitz	Laurie		Form Letter #5	5404	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Marrell	Kristi and Family		Form Letter #5	5535	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Marsh	Tracey	Grant, CO	Comment Sheet	14	DEIS	2(A,B,C,E), 3(A,B)

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
II. PERSONAL COMMUNICATION		Master	Jane L.		Form Letter #2	5765	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Mathowitz	Joanne Holden	Georgetown, CO	Comment Sheet	15	DEIS	10(A), 19(2), 20(20)(1)
II. PERSONAL COMMUNICATION		Mc Daniel		Pine, CO	Comment Sheet	16	DEIS	11
II. PERSONAL COMMUNICATION		Mc Nabb	Kerry	Aurora, CO	Personal Letter	580	DEIS	2(A,B,C), 5(B), 8(E)
II. PERSONAL COMMUNICATION		Mc Nair	Don		Comment Sheet	203	DEIS	2(A,B,C), 3(A), 12(I)
II. PERSONAL COMMUNICATION		McCann	James D	Georgetown, CO	Personal Letter	5286	SDEIS	10(A,B,C), 11
II. PERSONAL COMMUNICATION		McHugh	Kerry Ann		Comment Sheet	5500	SDEIS	9(C), 33
II. PERSONAL COMMUNICATION		McKinney	Jan		Personal Letter	5456	SDEIS	2(D), 3(A), 5(E), 8, 29(A)
II. PERSONAL COMMUNICATION		McLaren	Brian		Form Letter #1	96	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		McLaren	Brian	Denver, CO	Form Letter #4	5278	SDEIS	2(A), 4(F), 5(C), 16, 28(F,H), 29
II. PERSONAL COMMUNICATION		McMeekin	Dorothy	Chanata	Personal Letter	5224	SDEIS	3(A), 33
II. PERSONAL COMMUNICATION		McMeekin	Dorothy & John		Personal Letter	457	DEIS	12(E,I)
II. PERSONAL COMMUNICATION		McNair	Donald W.	Empire, CO	Personal Letter	5246	SDEIS	33
II. PERSONAL COMMUNICATION		McNiel	M.		Form Letter #3	5784	SDEIS	23(N,D,P,T), 26, 28(F,H), 29(F)
II. PERSONAL COMMUNICATION		McNiel	M.		Form Letter #2	5514	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		McNiel	M.		Form Letter #6	5544	SDEIS	3(A), 24(B), 26, 33
II. PERSONAL COMMUNICATION		Meeks	Mark	Bailey, CO	Personal Letter	581	DEIS	2(B,D), 3(H), 7(D), 12(I)
II. PERSONAL COMMUNICATION		Meeks	Mark	Bailey, CO	Personal Letter	5192	SDEIS	3(A), 28(A,F)
II. PERSONAL COMMUNICATION		Mekse	Penelope		Form Letter #1	97	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Menze	Sue		Personal Letter	5368	SDEIS	2(A), 8

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
II. PERSONAL COMMUNICATION		Meo	Annie	Denver, CO	Personal Email	5205	SDEIS	22
II. PERSONAL COMMUNICATION		Merrill	M. Stanely		Personal Letter	5414	SDEIS	2(A), 3(G), 26
II. PERSONAL COMMUNICATION		Merrill	M. Stanley		Personal Letter	5776	SDEIS	2(A), 26
II. PERSONAL COMMUNICATION		Metz	Diane M.	Greenwood Village, CO	Form Letter #2	5120	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Meyer	Eric R.	Boulder, CO	Personal Letter	582	DEIS	2(A,D,F), 3(D,J), 12(A,D)
II. PERSONAL COMMUNICATION		Meyer	Paul A. & Linda K.	Evergreen, CO	Personal Letter	583	DEIS	11
II. PERSONAL COMMUNICATION		Milland	Steph C.		Personal Letter	5407	SDEIS	10(A,B), 11
II. PERSONAL COMMUNICATION		Miller	Ardis	Denver, CO	Form Letter #2	5382	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Minick	Virginia	Golden, CO	Personal Letter	5242	SDEIS	2(A), 3(G), 5(E), 12(D), 24(A), 26, 28(D), 29(A)
II. PERSONAL COMMUNICATION		Minick	Virginia C.	Golden, CO	Personal Letter	458	DEIS	2(C,D,H), 3(A,I), 4(A), 5(A,D,E), 12(I), 16(D)
II. PERSONAL COMMUNICATION		Mishler	Laura	Colorado Springs, CO	Personal Letter	165	DEIS	1, 2(A,B,C,E), 3(J), 5(B,E), 15(B)
II. PERSONAL COMMUNICATION		Mishler	Robert	Monument, CO	Personal Letter	52	DEIS	2(A,C), 8(E), 9(G)
II. PERSONAL COMMUNICATION		Mollenauer	Paul	Evergreen, CO	Personal Letter	5236	SDEIS	2(D), 24(B), 26
II. PERSONAL COMMUNICATION		Moller	Anne S.		Personal Letter	5431	SDEIS	2(D), 3(A), 12(A), 23(S), 26(A), 29(A)
II. PERSONAL COMMUNICATION		Moore	Janice & Mike	Georgetown, CO	Personal Letter	584	DEIS	3(D,H), 12(E,I)
II. PERSONAL COMMUNICATION		Moore	Janice and Michael		Form Letter #5	5405	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Moore	Michael		Personal Letter	5777	SDEIS	3(A,B), 16C, 23(Z), 29(A,B)
II. PERSONAL COMMUNICATION		Morris	Estel & Lucille		Form Letter #1	98	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Morton	Elizabeth	Lakewood, CO	Personal Letter	5312	SDEIS	8(F)
II. PERSONAL COMMUNICATION		Mott	Marcha	Evergreen, CO	Personal Letter	459	DEIS	2(B,C), 3(A), 4(A), 7(D), 8(G)

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
II. PERSONAL COMMUNICATION		Mott	Martha		Personal Letter	5245	SDEIS	24(B), 29
II. PERSONAL COMMUNICATION		Mueller	Lavonne	DeKalb, IL	Personal Letter	460	DEIS	3(J), 7(A)
II. PERSONAL COMMUNICATION		Mueller	Linda	Georgetown, CO	Personal Letter	53	DEIS	1, 2(B,C), 3(A,C,D,J), 7(A), 8(B), 12(E)
II. PERSONAL COMMUNICATION		Mueller	Mike	Littleton, CO	Personal Letter	585	DEIS	2(A,B,C,D,F), 4(A), 7(C,D)
II. PERSONAL COMMUNICATION		Muenchow	Kurt	Morrison, CO	Personal Letter	586	DEIS	1, 2(A,B,C,D,F), 4(A), 5(A), 6(A,B,D,E), 7(E), 8(2), 9(B), 12(3), 15(D)
II. PERSONAL COMMUNICATION		Murphy	Jerry L.	Georgetown, CO	Personal Letter	587	DEIS	10(A,B), 11
II. PERSONAL COMMUNICATION		Murphy	Marcia	Denver, CO	Personal Letter	461	DEIS	10(A), 11
II. PERSONAL COMMUNICATION		Murphy	Ruth	Arvada, CO	Personal Letter	462	DEIS	3(A), 8(G), 12(E)
II. PERSONAL COMMUNICATION		Murphy	Ruth Mary		Personal Letter	5297	SDEIS	3(A), 12(A), 24(B), 26
II. PERSONAL COMMUNICATION		Murphy	Ruth Mary	Georgetown, CO	Form Letter #5	5348	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Nau	J.B.	Evergreen, CO	Personal Letter	463	DEIS	2(B,E), 4(E), 15(B)
II. PERSONAL COMMUNICATION		Neale	Terry	Bailey, CO	Comment Sheet	5196	SDEIS	12(I), 26
II. PERSONAL COMMUNICATION		Nelson	Mary Jo	Evergreen, CO	Personal Letter	55	DEIS	2(C), 3(C,E,J), 8(A)
II. PERSONAL COMMUNICATION		Nelson	Mary Jo	Evergreen, CO	Personal Letter	706	DEIS	2(C), 3(C,E,J), 8(A)
II. PERSONAL COMMUNICATION		Nelson	Mary Jo		Personal Letter	5496	SDEIS	2(A), 3(A), 8(A,C), 12(G), 24(A)
II. PERSONAL COMMUNICATION		Nelson	Noel		Form Letter #1	176	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Nelson	Robert A.	Golden, CO	Personal Letter	588	DEIS	1, 3(A), 4(A), 5(A,E), 8(C)
II. PERSONAL COMMUNICATION		Nelson	Robert A.		Personal Letter	5445	SDEIS	22, 28(D)
II. PERSONAL COMMUNICATION		Nent	Lori		Form Letter #5	5533	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Neumann	Claude		Comment Sheet	515	DEIS	7(A), 9(F)



COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
II. PERSONAL COMMUNICATION		Nicklas	Jim		Personal Letter	56	DEIS	2(A,B), 8(E), 9(F), 15(A,B,D)
II. PERSONAL COMMUNICATION		Nikkel	Dave	Littleton, CO	Comment Sheet	5202	SDEIS	12(D)
II. PERSONAL COMMUNICATION		Nisco	Alessandra	Telluride, CO	Personal Letter	464	DEIS	3(A,B,F,J), 5(B), 8(A)
II. PERSONAL COMMUNICATION		Nisler	Paul	Georgetown, CO	Form Letter #2	5337	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Noel	Cyndy	Colorado Springs, CO	Form Letter #2	5335	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Noraden	Elizabeth		Personal Letter	5415	SDEIS	12(A), 26
II. PERSONAL COMMUNICATION		Norton	Marcella D.	Georgetown, CO	Personal Letter	465	DEIS	3(D,J), 4(A), 12(A,D)
II. PERSONAL COMMUNICATION		Norton	Marcella D.		Form Letter #5	5538	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Oakes	Bill	Aurora, CO	Personal Letter	595	DEIS	3(A), 4(A), 12(A)
II. PERSONAL COMMUNICATION		Olinicy	Dan and Ruth	Evergreen, CO	Personal Letter	5296	SDEIS	2(A), 8(D), 24(A), 26, 28(D)
II. PERSONAL COMMUNICATION		Olinicy	Ruth & Dan	Evergreen, CO	Personal Letter	466	DEIS	2(C,D), 3(G), 5(B,E), 8(B,E,F)
II. PERSONAL COMMUNICATION		Oliver	Wendy	Buena Vista, CO	Personal Letter	596	DEIS	2(A,B,C), 4(A), 5(E), 8(B)
II. PERSONAL COMMUNICATION		Onago	Nancy A.	Georgetown, CO	Personal Letter	467	DEIS	2(A,C,D), 3(D), 4(A), 9(C), 16(E)
II. PERSONAL COMMUNICATION		Osborn	Jerry	Littleton, CO	Personal Letter	597	DEIS	2(A,B,C), 3(A), 8(G)
II. PERSONAL COMMUNICATION		Otto	Elizabeth	Lakewood, CO	Personal Letter	5318	SDEIS	26(A)
II. PERSONAL COMMUNICATION		Otto	Elizabeth	Idaho Springs, CO	Personal Letter	468	DEIS	2(A,B,D), 3(D), 7(B)
II. PERSONAL COMMUNICATION		Overpeck	Kim and John		Form Letter #5	5531	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		P.	E.B.		Personal Letter	233	DEIS	8(G)
II. PERSONAL COMMUNICATION		Page	Barbara		Personal Letter	469	DEIS	3(A,D), 4(A), 5(A,B,C,E),9(E), 12(I), 16(E)
II. PERSONAL COMMUNICATION		Page	Barbara		Personal Letter	5471	SDEIS	12(I), 16(E,C), 17, 23(P,R,Z), 24(B)

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
II. PERSONAL COMMUNICATION		Palmer	Sandra L.	Denver, CO	Form Letter #1	256	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Parker	Nina and Larry		Personal Letter	5477	SDEIS	2(A,D), 3(A), 8(G), 17, 26(A)
II. PERSONAL COMMUNICATION		Parsons	Harry	Morrison, CO	Personal Letter	5247	SDEIS	3(A), 26
II. PERSONAL COMMUNICATION		Parsons	Harry V.	Morrison, CO	Personal Letter	470	DEIS	3(I), 8(B), 9(C), 12(A)
II. PERSONAL COMMUNICATION		Passas	Delinda and Christopher		Personal Letter	5497	SDEIS	8(D), 12(A), 16(D), 23(Z)
II. PERSONAL COMMUNICATION		Pate	Bill	Joplin, MO	Personal Letter	5355	SDEIS	8(G), 12(A,I), 24(A)
II. PERSONAL COMMUNICATION		Patterson	Ned	St. Paul, MN	Form Letter #2	5326	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Patterson	Sally D.	St. Paul, MN	Personal Letter	471	DEIS	2(A,B,C), 3(A,H), 4(A), 8(B), 9(F)
II. PERSONAL COMMUNICATION		Patterson	Sally D.	Georgetown, CO	Form Letter #5	5344	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Patterson	Thomas	Georgetown, CO	Form Letter #5	5345	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Patton	Brenda	Littleton, CO	Personal Letter	472	DEIS	2(A,B,C,D), 3(A), 7(A)
II. PERSONAL COMMUNICATION		Patton	John W.	St. Paul, MN	Form Letter #2	5330	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Paul	Sophia	Bailey, CO	Comment Sheet	17	DEIS	2(A), 7(D)
II. PERSONAL COMMUNICATION		Pedersen	Pilar	Boulder, CO	Personal Letter	57	DEIS	2(B,C,D), 3(I), 8(G), 12(E,I)
II. PERSONAL COMMUNICATION		Pedeuen	Pilar		Personal Letter	5430	SDEIS	3(A), 8(G), 26
II. PERSONAL COMMUNICATION		Pedlow	Kerry, Joyce, Margaret	Georgetown, CO	Form Letter #5	5270	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Pequette	James	Georgetown, CO	Personal Letter	58	DEIS	1, 2(B,C), 3(A,C,D,J), 7(A), 8(F), 9(B), 12(E)
II. PERSONAL COMMUNICATION		Pequette			Personal Letter	5429	SDEIS	24(B), 26, 33, 35
II. PERSONAL COMMUNICATION		Person	Deanna		Form Letter #1	99	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Peters	Donna		Form Letter #5	5400	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
II. PERSONAL COMMUNICATION		Peters	John A.		Form Letter #2	5390	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Peters	Johnny	Georgetown, CO	Personal Letter	5216	SDEIS	2(A), 3(A,B), 23(F,P,M)
II. PERSONAL COMMUNICATION		Phillips and Masters	Wendy and Ellen J.		Form Letter #3	5518	SDEIS	23(N,D,P,T), 26, 28(F,H), 29(F)
II. PERSONAL COMMUNICATION		Pinkowitz	Susan F.		Personal Letter	5467	SDEIS	8(G), 9(C), 16(B,C,D), 17, 24(A,B), 26, 28(D), 29(A,D), 33
II. PERSONAL COMMUNICATION		Pinkowitz	Tod		Personal Letter	5486	SDEIS	5(B,E), 23(H,O,Z), 24(B)
II. PERSONAL COMMUNICATION		Plutt	Steve	Lake George	Personal Letter	598	DEIS	2(D), 7(A)
II. PERSONAL COMMUNICATION		Polhemus			Personal Letter	473	DEIS	2(A,E), 3(A)
II. PERSONAL COMMUNICATION		Poor			Form Letter #1	100	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Powell	Dienne	Idaho Springs, CO	Personal Letter	59	DEIS	2(A,B,C,D), 5(B), 7(A), 8(F), 9(B), 12(E)
II. PERSONAL COMMUNICATION		Primus	Robert J.	Georgetown, CO	Personal Letter	5231	SDEIS	24(B), 26, 28(B), 29(E)
II. PERSONAL COMMUNICATION		Primus	Robert J.	Georgetown, CO	Personal Letter	5378	SDEIS	23(F), 28(B)
II. PERSONAL COMMUNICATION		Pugh	W.A.		Form Letter #5	5399	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Puzitar	Robert M		Form Letter #4	5274	SDEIS	2(A), 4(F), 5(C), 16, 28(F,H), 29
II. PERSONAL COMMUNICATION		Pyle	J.E.		Personal Letter	5422	SDEIS	24(B), 26, 35
II. PERSONAL COMMUNICATION		Rachel	Naomi	Boulder, CO	Personal Letter	61	DEIS	2(A,B,C), 3(A,J), 5(B), 12(D,H)
II. PERSONAL COMMUNICATION		Rachel	Naomi	Boulder, CO	Personal Letter	5305	SDEIS	26(A)
II. PERSONAL COMMUNICATION		Radovich	Nicholas D.	Denver, CO	Personal Letter	599	DEIS	2(A,B), 5(A,B,C), 12(A)
II. PERSONAL COMMUNICATION		Rapp	Ed	Dumont, CO	Personal Letter	5213	SDEIS	18, 19, 20, 21, 22
II. PERSONAL COMMUNICATION		Raup	Toni	Phoenix, AZ	Personal Letter	474	DEIS	2(A,C,D), 8(E)
II. PERSONAL COMMUNICATION		Raup	Toni		Personal Letter	5314	SDEIS	26

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
II. PERSONAL COMMUNICATION		Reed	Nora	Ex. Springs	Personal Letter	5280	SDEIS	2C, 3(A), 8, 23(D), 28(A,B,F)
II. PERSONAL COMMUNICATION		Reiquam	Bill and Elenor	Lakewood, CO	Personal Letter	5230	SDEIS	8(G), 26
II. PERSONAL COMMUNICATION		Reynolds	Marianne		Form Letter #1	101	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Reynolds	Marianne	Lakewood, CO	Form Letter #4	5343	SDEIS	2(A), 4(F), 5(C), 16, 28(F,H), 29
II. PERSONAL COMMUNICATION		Reynolds	Marlin	Lexington	Form Letter #2	5263	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Rhodes	Marilyn	Evergreen, CO	Personal Letter	475	DEIS	2(D), 7(B)
II. PERSONAL COMMUNICATION		Richie	Page D.		Personal Letter	5370	SDEIS	2(D), 3(A,B), 5(C,E),12(I), 23(L)
II. PERSONAL COMMUNICATION		Robertson	Alex		Personal E-Mail	211	DEIS	4(A)
II. PERSONAL COMMUNICATION		Robinson	Lisa	Grant, CO	Personal Letter	600	DEIS	1, 3(F), 15(D), 16(C)
II. PERSONAL COMMUNICATION		Robinson	Roy E,	Denver, CO	Form Letter #2	5130	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Rodina	Christine	Georgetown, CO	Personal Letter	5357	SDEIS	2(A), 3(A), 8(G)
II. PERSONAL COMMUNICATION		Roe	John & Sandra	Minneapolis, MN	Personal Letter	5184	SDEIS	2(F), 3(A),12(I),15(A), 24(B), 28(F)
II. PERSONAL COMMUNICATION		Roe	John & Sandra	Georgetown, CO	Form Letter #5	5266	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Roe	Katharine	St. Paul, MN	Form Letter #2	5339	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Roe	Sandra B	Saint Paul, MN	Personal Letter	601	DEIS	2(B), 3(C), 7(G)
II. PERSONAL COMMUNICATION		Roe	Suca J. and David B		Personal Letter	5443	SDEIS	3(A), 26, 33
II. PERSONAL COMMUNICATION		Roeh	Teri		Form Letter #1	177	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Rogers	Buck & Mary	Perry	Personal Letter	5222	SDEIS	23(F,P,N,U,A), 26
II. PERSONAL COMMUNICATION		Rosenfeld	Ruth K.	Georgetown, CO	Personal Letter	602	DEIS	2(B,D), 3(A,H), 4(A), 5(B), 8(E)
II. PERSONAL COMMUNICATION		Roske	Waron		Personal Letter	5311	SDEIS	12(A), 26(A), 29

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
II. PERSONAL COMMUNICATION		Roske	Warren	Golden, CO	Personal Letter	476	DEIS	2(A,C,D), 12(I)
II. PERSONAL COMMUNICATION		Ross	Grady		Personal Letter	5503	SDEIS	2(A)
II. PERSONAL COMMUNICATION		Rossmiller	Gary A.	Denver, CO	Personal Letter	603	DEIS	2(B,D), 3(A), 4(B), 8(C), 9(C)
II. PERSONAL COMMUNICATION		Rotigan	Barbara and John		Form Letter #5	5807	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Roubos	Terie		Personal Letter	5775	SDEIS	8(G)
II. PERSONAL COMMUNICATION		Ruhoff	Ron	Evergreen, CO	Personal Letter	477	DEIS	2(C), 4(A), 7(A), 9(F)
II. PERSONAL COMMUNICATION		Russack	Sid		Personal E-Mail	522	DEIS	14(A)
II. PERSONAL COMMUNICATION		Rutherford	Frank "Buff" and Mary Lou		Form Letter #5	5540	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Rutter	Anita	Denver, CO	Personal Letter	578	DEIS	3(A,J), 8(B)
II. PERSONAL COMMUNICATION		Ryan	Marlys K.	Georgetown, CO	Personal Letter	478	DEIS	11
II. PERSONAL COMMUNICATION		Sample	Joan		Personal Letter	5484	SDEIS	12(A), 23(S), 24(B)
II. PERSONAL COMMUNICATION		Sanders	Helen	Georgetown, CO	Personal Letter	479	DEIS	2(A,B,C), 3(A,E), 4(A,E), 12(E)
II. PERSONAL COMMUNICATION		Sanders	Helen	Georgetown, CO	Personal Letter	5366	SDEIS	2(B), 3(A), 5(E), 17, 24(B), 26(A), 28(B), 32
II. PERSONAL COMMUNICATION		Sanders & Temple	Laura-Neta & Len	Idaho Springs, CO	Comment Sheet	205	DEIS	2(A,B,C,E), 3(B), 8(G), 12(D)
II. PERSONAL COMMUNICATION		Sarne	Julie	St. Paul, MN	Form Letter #2	5327	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Saum	George H.	Agate, CO	Personal E-Mail	28	DEIS	2(A), 3(B), 5(D), 8(E), 9(F)
II. PERSONAL COMMUNICATION		Schach	Ray	Lakewood, CO	Personal Letter	5380	SDEIS	10(A), 11, 22
II. PERSONAL COMMUNICATION		Schaefer	Susan		Personal Letter	5411	SDEIS	24(B), 29(C,F)
II. PERSONAL COMMUNICATION		Scheerer	Mr F.R.	Grant, CO	Comment Sheet	206	DEIS	4(B), 10(A)
II. PERSONAL COMMUNICATION		Scherer	Dave	South Fork, CO	Personal Letter	604	DEIS	8

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
II. PERSONAL COMMUNICATION		Schmalz	Ted and Mary		Form Letter #3	5785	SDEIS	23(N,D,P,T), 26, 28(F,H), 29(F)
II. PERSONAL COMMUNICATION		Schmidt	Janet		Form Letter #2	5388	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Schobinger	Charles W.		Personal Letter	605	DEIS	3(H), 12(G)
II. PERSONAL COMMUNICATION		Schomberg	Mr & Mrs A. Thomas		Personal Letter	481	DEIS	2(A,C,D), 7(A), 9(F)
II. PERSONAL COMMUNICATION		Schreier	Susan M.		Form Letter #5	5529	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Schreiner	John	Rural Clear Creek County	Comment Sheet	207	DEIS	2(B)
II. PERSONAL COMMUNICATION		Scott	Gates & Sara		Personal Letter	482	DEIS	2(A,B,C,E), 3(C,D,J), 5(B), 8(D), 12(A)
II. PERSONAL COMMUNICATION		Scott	Julia and William		Personal Letter	5759	SDEIS	12(A), 24(B), 29(A,C), 33
II. PERSONAL COMMUNICATION		Scott	Julie	Englewood, CO	Personal Letter	62	DEIS	REQUEST COPY OF EIS
II. PERSONAL COMMUNICATION		Scott	Mr & Mrs WM L.		Form Letter #1	102	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Scott	Patrica		Personal Letter	167	DEIS	2(C,D), 3(A), 4(A), 8(G)
II. PERSONAL COMMUNICATION		Scott	Patricia A.	Georgetown, CO	Form Letter #5	5351	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Seeley and Eagle	Richard H. and Lynda		Form Letter #5	5796	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Seeley and Eagle	Richard H. and Lynda		Personal Letter	5498	SDEIS	16(B,C,D,E), 26
II. PERSONAL COMMUNICATION		Seeley and Eagle	Richard H. and Lynda		Personal Letter	5499	SDEIS	5(C), 16(B,C,D,E), 26
II. PERSONAL COMMUNICATION		Seeley and Eagle	Richard H. and Lynda		Personal Letter	5772	SDEIS	16(B,C,D), 23(P), 26
II. PERSONAL COMMUNICATION		Selby	Alice		Form Letter #3	5517	SDEIS	23(N,D,P,T), 26, 28(F,H), 29(F)
II. PERSONAL COMMUNICATION		Semler	Roger	Kalispell, MT	Personal Letter	64	DEIS	1, 2(B,C), 3(A,B,C,D,E), 5(A,E), 12(D,E,I)
II. PERSONAL COMMUNICATION		Semler	Roger	Kalispell, MT	Personal Letter	707	DEIS	1, 2(B,C), 3(A,B,C,D,E), 5(A,E), 12(D,E,I)
II. PERSONAL COMMUNICATION		Shaw	John and Melody		Form Letter #2	5392	SDEIS	7(G), 24(B), 26

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
II. PERSONAL COMMUNICATION		Shea	Charles		Personal Letter	5375	SDEIS	3(A), 15(B), 24(B), 26, 33, 35
II. PERSONAL COMMUNICATION		Shea	Charles		Form Letter #5	5757	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Shea	Susan		Personal Letter	5376	SDEIS	3(A), 15(B), 24(B), 26, 33, 35
II. PERSONAL COMMUNICATION		Shelton	Catherine K.	Evergreen, CO	Personal Letter	606	DEIS	2(B,C,D), 3(J), 5(A,B), 12(A,G)
II. PERSONAL COMMUNICATION		Shield	Samuel		Personal Letter	65	DEIS	3(A,J), 4(A,E), 5(B,C), 8(E)
II. PERSONAL COMMUNICATION		Sitzman	Betty J.		Form Letter #2	5766	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Sitzman	Betty, J.	Georgetown, CO	Personal Letter	232	DEIS	3(A,D,J), 12(I)
II. PERSONAL COMMUNICATION		Skeen	Cynthia	Georgetown, CO	Personal Letter	168	DEIS	4(B,E), 7(A,D)
II. PERSONAL COMMUNICATION		Skeen	Cynthia		Personal Letter	5485	SDEIS	2(A), 7(A), 16(D), 28(F)
II. PERSONAL COMMUNICATION		Slattery	Dan		Personal Letter	5421	SDEIS	2(B), 5(E), 17, 24(B), 26, 29(A), 35
II. PERSONAL COMMUNICATION		Slavec	Paul		Personal Letter	5308	SDEIS	12(A), 26(A)
II. PERSONAL COMMUNICATION		Smith	Antonettee DeLauro	Englewood, CO	Personal Letter	5191	SDEIS	3(B), 8(G), 24(B), 29
II. PERSONAL COMMUNICATION		Smith	Barton B.		Personal Letter	5419	SDEIS	3(A), 8(G), 24(C), 26, 33
II. PERSONAL COMMUNICATION		Smith	Dorothy		Form Letter #1	257	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Smith	Robert C.		Comment Sheet	5226	SDEIS	22, 28(B)
II. PERSONAL COMMUNICATION		Smith	Robert C.		Comment Sheet	5284	SDEIS	10(A), 11, 22, 28(B)
II. PERSONAL COMMUNICATION		Snodgrass	Brent		Personal Letter	483	DEIS	1, 2(A,B,C,D), 4(C), 5(A,B), 8(G), 12(D,E)
II. PERSONAL COMMUNICATION		Snyder	Pat		Personal Letter	5313	SDEIS	2(E), 3(A), 26(A)
II. PERSONAL COMMUNICATION		Sorensen	Patricia	Evergreen, CO	Personal Letter	484	DEIS	2(B), 12(I)
II. PERSONAL COMMUNICATION		Speaks	William	Lakewood, CO	Comment Sheet	19	DEIS	2C, 5(B), 8(D), 13(A)

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
II. PERSONAL COMMUNICATION		Spector	Cheryl A.		Form Letter #2	5809	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Spezia	John	Steamboat Springs, CO	Personal Letter	67	DEIS	2(A,B,C), 5(B,E), 12(D,E,I)
II. PERSONAL COMMUNICATION		Spielman	Malcolm and Robbie		Form Letter #4	5276	SDEIS	2(A), 4(F), 5(C), 16, 28(F,H), 29
II. PERSONAL COMMUNICATION		Spielman	Roberta		Form Letter #1	103	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Spiller	Dianne		Personal E-Mail	212	DEIS	4(B), 14(A)
II. PERSONAL COMMUNICATION		Springer	Chemaine		Personal Letter	5494	SDEIS	3(A), 8(C)
II. PERSONAL COMMUNICATION		Springer	Joseph		Personal Letter	5754	SDEIS	2(D), 3(B), 8(G), 26
II. PERSONAL COMMUNICATION		Stacy	Richard	Montrose, CO	Personal Letter	5183	SDEIS	2(A), 12(G)
II. PERSONAL COMMUNICATION		Stacy	Richard D.	Montrose, CO	Personal Letter	607	DEIS	1, 10(B), 11, 16
II. PERSONAL COMMUNICATION		Stahl	Mark A & Bobbie Jo	Lakewood, CO	Personal Letter	608	DEIS	2(B), 3(J), 8(E)
II. PERSONAL COMMUNICATION		Stanbogh	Leo		Form Letter #3	5521	SDEIS	23(N,D,P,T), 26, 28(F,H), 29(F)
II. PERSONAL COMMUNICATION		Stanley	Paul & Janet	Georgetown, CO	Personal Letter	68	DEIS	2(D,E), 3(A,D), 9(F), 12(E,I)
II. PERSONAL COMMUNICATION		Starbuck	Joanne M.	Littleton, CO	Form Letter #2	5258	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Stavy	Michael	Chicago, IL	Personal Letter	5321	SDEIS	2(C), 12(I), 26, 33, 35
II. PERSONAL COMMUNICATION		Steele	Steven M.		Personal Letter	5472	SDEIS	4(E), 8(G), 24(A,B), 28(E)
II. PERSONAL COMMUNICATION		Stevens	Carl	Wheat Ridge, CO	Personal Letter	69	DEIS	3(A), 7(A,G)
II. PERSONAL COMMUNICATION		Stibeeel	James		Form Letter #3	5522	SDEIS	23(N,D,P,T), 26, 28(F,H), 29(F)
II. PERSONAL COMMUNICATION		Stokes	Dennis B.	Boulder, CO	Personal Letter	5299	SDEIS	2(A), 8(G), 33
II. PERSONAL COMMUNICATION		Stokes	Ellen C	Boulder, CO	Personal Letter	5363	SDEIS	2(A), 3(A), 17
II. PERSONAL COMMUNICATION		Stokstad	Peggy		Telephone Conversation Record	5449	SDEIS	10(C), 11(C)



COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
II. PERSONAL COMMUNICATION		Stokstad	Peggy		Personal Letter	5462	SDEIS	11C, 23, 28
II. PERSONAL COMMUNICATION		Stowell	John		Personal E-Mail	523	DEIS	2(A,D), 3(A,J), 8(C)
II. PERSONAL COMMUNICATION		Straub	Cherie & Russ	South Dartmouth/Evergreen, MA/CO	Personal Letter	485	DEIS	3(A,B,C), 3(A,J), 8(G)
II. PERSONAL COMMUNICATION		Straub	Cherrie	Evergreen, CO	Personal Letter	5369	SDEIS	3(A), 24(B), 26(A)
II. PERSONAL COMMUNICATION		Straub	D'Arcy	Littleton, CO	Personal Letter	609	DEIS	1, 14(A)
II. PERSONAL COMMUNICATION		Straub	D'Arcy		Personal Letter	5475	SDEIS	2(A,B), 3(B), 5(F), 9(B)
II. PERSONAL COMMUNICATION		Streete	John L.	Denver, CO	Personal Letter	486	DEIS	2(A,C), 12(D)
II. PERSONAL COMMUNICATION		Sullivan	Colleen		Personal Letter	5764	SDEIS	12(A), 26
II. PERSONAL COMMUNICATION		Sullivan	Dale	Houston, TX	Personal Letter	169	DEIS	2(A,C,D), 3(J), 8(C), 12(H)
II. PERSONAL COMMUNICATION		Sush	Britt	Sante Fe, NM	Form Letter #2	5261	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Sustern	Britt		Form Letter #5	5799	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Sweetser	Elliot	Lakewood, CO	Personal Letter	5206	SDEIS	29(E)
II. PERSONAL COMMUNICATION		Swem	Helen and Theodor		Personal Letter	5438	SDEIS	4(E), 8(G), 17, 24(A), 28(D), 29(A)
II. PERSONAL COMMUNICATION		Swem	Theodor & Helen	Evergreen, CO	Personal Letter	610	DEIS	1, 2(A,D,F), 3(C), 4(A,E), 5(B), 7(A)
II. PERSONAL COMMUNICATION		Swett	Sondra	Salida, CO	Personal Letter	5358	SDEIS	2(A), 8(G), 24(A), 29(F)
II. PERSONAL COMMUNICATION		Swift	Kevin		Form Letter #5	5798	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Sykes	Virginia	Golden, CO	Personal Letter	611	DEIS	2(C), 3(J), 8(E)
II. PERSONAL COMMUNICATION		Sylvester	Les & Martha-Ann		Personal Letter	612	DEIS	2(C), 3(A), 5(B)
II. PERSONAL COMMUNICATION		Tauriello	Daniel	Conifer, CO	Personal Letter	613	DEIS	2(A,C), 5(A,B), 12(A)
II. PERSONAL COMMUNICATION		Taylor	Jan	Devon, England	Personal Letter	5322	SDEIS	3(A), 8, 16(E,D)

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
II. PERSONAL COMMUNICATION		Terrell	Lawrence P.	Evergreen, CO	Personal Letter	487	DEIS	1, 2(A,B,C,F,G), 3(A), 5(B,E), 7(E,G), 8(D)
II. PERSONAL COMMUNICATION		Terrell	Lawrence P.		Personal Letter	5436	SDEIS	2(B), 5(E), 24(A,B), 26(A), 28(D), 29(A)
II. PERSONAL COMMUNICATION		Terry	Linda & Bob		Personal Letter	70	DEIS	2(A,B,C), 4(A), 12(E,I), 15(A)
II. PERSONAL COMMUNICATION		Tesky	Barbara		Personal Letter	5483	SDEIS	26, 33, 35
II. PERSONAL COMMUNICATION		Tesky	Jonathan	Denver, CO	Personal Letter	5320	SDEIS	3(A), 29(C)
II. PERSONAL COMMUNICATION		Tesky	Jonathan		Personal Letter	5319	SDEIS	2(A,D), 3(A), 8(B,G,H), 26(A)
II. PERSONAL COMMUNICATION		Tesky	Jonathan C.		Personal Email	5250	SDEIS	2(A,D), 3(A), 8(B,G,H), 24(B), 26(A)
II. PERSONAL COMMUNICATION		Thach	Catherine A.	Lakewood, CO	Personal Letter	614	DEIS	2(C,D), 3(D), 4(A,E), 8(E)
II. PERSONAL COMMUNICATION		Thach	Catherine A.	Lakewood, CO	Personal Letter	708	DEIS	2(C,D), 3(D), 4(A,E), 8(E)
II. PERSONAL COMMUNICATION		Thompson	Grace		Form Letter #1	104	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Tibbs	Bob		Form Letter #3	5340	SDEIS	23(N,D,P,T), 26, 28(F,H), 29(F)
II. PERSONAL COMMUNICATION		Tibbs	Bob and Konin	Georgetown, CO	Form Letter #5	5347	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Tiglsy	Brian	Empire, CO	Form Letter #2	5255	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Tinberry	Leroy		Form Letter #5	5537	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Tolpo	Carolyn	Shawnee, CO	Comment Sheet	20	DEIS	3(A,H), 7(A,G), 8(C)
II. PERSONAL COMMUNICATION		Tolpo	Vincent & Carolyn	Shawnee, CO	Personal Letter	488	DEIS	2(B,C,G), 3(A,H), 5(B,E), 7(A,B,D,F)
II. PERSONAL COMMUNICATION		Tomasi	Edwin J & Nell	Georgetown, CO	Personal Letter	615	DEIS	1, 3(A,H), 4(A), 7(B), 12(E)
II. PERSONAL COMMUNICATION		Tomocik	Joe	Denver, CO	Comment Sheet	208	DEIS	11
II. PERSONAL COMMUNICATION		Torok-Glover	Patricia A. and Brian A.		Personal Letter	5434	SDEIS	2(A,B), 3(A), 5(E), 12(D), 17, 23(C,Q), 24(A,B), 26, 28(B,D), 29(A)
II. PERSONAL COMMUNICATION		Townsend	Barbara		Form Letter #1	105	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
II. PERSONAL COMMUNICATION		Trelease-Bell	Amy	Georgetown, CO	Personal Letter	5364	SDEIS	3(A), 26, 28(B,F)
II. PERSONAL COMMUNICATION		Tullberg	Karen	Lakewood, CO	Form Letter #2	5333	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Unger	Joel	Denver, CO	Personal Letter	616	DEIS	11
II. PERSONAL COMMUNICATION		Upland	Chester R. and Virginia	Georgetown, CO	Form Letter #5	5271	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Valentine	Sherri	Evergreen, CO	Personal Letter	617	DEIS	2(A,B,C,D), 7(A)
II. PERSONAL COMMUNICATION		Valyburne	Glenn S.	Erie, CO	Form Letter #2	5332	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Van der Slice	John		Comment Sheet	146	DEIS	2(D,E), 3(H), 5(B,E), 7(A)
II. PERSONAL COMMUNICATION		Van der Slice	John	Georgetown, CO	Personal Letter	489	DEIS	2(B,D,E), 3(B,H), 5(B,C), 7(A)
II. PERSONAL COMMUNICATION		Van der Slice	John	Miami, FL	Form Letter #2	5386	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Vaughn	Cathy	Empire, CO	Comment Sheet	209	DEIS	8(E)
II. PERSONAL COMMUNICATION		Vaughn	Cathy		Personal Letter	5372	SDEIS	3(D), 26
II. PERSONAL COMMUNICATION		Ventimiglia	Lori		Personal Letter	490	DEIS	5(A,C), 9(F)
II. PERSONAL COMMUNICATION		Vigil	Marilyn	Thorton, CO	Personal E-Mail	524	DEIS	2(A,B), 3(J), 8(B)
II. PERSONAL COMMUNICATION		Vigor	William & Linda		Personal Letter	618	DEIS	8(G), 12(A)
II. PERSONAL COMMUNICATION		Wagner	Thomas & Kay	Evergreen, CO	Personal Letter	491	DEIS	7(A,D)
II. PERSONAL COMMUNICATION		Wahlborg	Harold J.	Georgetown, CO	Personal Letter	5215	SDEIS	22, 23(C,D,F,Y)
II. PERSONAL COMMUNICATION		Wahlborg	Maraday	Georgetown, CO	Personal Letter	171	DEIS	2(A,B), 3(A,C,J), 9(C), 12(D,E), 16(E)
II. PERSONAL COMMUNICATION		Waldman	Lawrence S.	Morrison, CO	Personal Letter	492	DEIS	11
II. PERSONAL COMMUNICATION		Walker	Louise C.	Evergreen, CO	Personal Letter	619	DEIS	2(B,C,F), 5(E), 8(E), 12(E)
II. PERSONAL COMMUNICATION		Walker	Sheila	Denver, CO	Form Letter #2	5124	SDEIS	7(G), 24(B), 26

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
II. PERSONAL COMMUNICATION		Walters	John and Karen	Lakewood, CO	Personal Letter	5316	SDEIS	2(A), 3(A), 17
II. PERSONAL COMMUNICATION		Waltz	Phil	Littleton, CO	Personal Letter	172	DEIS	2(C,D), 5(D), 8(D,E)
II. PERSONAL COMMUNICATION		Ward	Bruce		Personal Letter	5409	SDEIS	10(A,B), 11
II. PERSONAL COMMUNICATION		Ward	Thomas C.	Denver, CO	Personal Letter	620	DEIS	2(B,C,D), 5(B), 8(C), 12(D)
II. PERSONAL COMMUNICATION		Ward	Tim		Personal Letter	5458	SDEIS	2(A), 8(G)
II. PERSONAL COMMUNICATION		Wason	John E.	Evergreen, CO	Personal Letter	493	DEIS	2(B,C,D,E,G), 3(B,J), 9(C)
II. PERSONAL COMMUNICATION		Watson	Cathy	Georgetown, CO	Comment Sheet	21	DEIS	7(G), 12(A), 15(A)
II. PERSONAL COMMUNICATION		Waugh and Martin	Eliza and Scott	Austin, TX	Form Letter #4	5342	SDEIS	2(A), 4(F), 5(C), 16, 28(F,H), 29
II. PERSONAL COMMUNICATION		Weisner	Mrs. W.J.	Columbus, IL	Personal Letter	173	DEIS	2(B,C), 3(A,B,J), 8(E)
II. PERSONAL COMMUNICATION		Wells	Marion & Jeff	Conifer, CO	Comment Sheet	22	DEIS	2(D), 5(B,E), 12(A,E)
II. PERSONAL COMMUNICATION		Wendell	Roger J.		Telephone Conversation Record	5470	SDEIS	2(A,B), 3(B), 8(G), 12(A)
II. PERSONAL COMMUNICATION		Werblake	Kay		Personal Letter	5468	SDEIS	2(A), 4(E), 24(B), 29(F)
II. PERSONAL COMMUNICATION		Werlin	Peter and Kim	Georgetown, CO	Form Letter #5	5346	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		West	Mary E.	Denver, CO	Personal Letter	494	DEIS	10(A)
II. PERSONAL COMMUNICATION		West	Mary Eabels	Denver, CO	Personal Letter	5283	SDEIS	10(A)
II. PERSONAL COMMUNICATION		Westlye	Jane		Form Letter #1	106	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Whitcomb	Joyce		Personal Letter	621	DEIS	2(B,C), 3(B), 5(B)
II. PERSONAL COMMUNICATION		White	Larry		Personal Letter	622	DEIS	1, 5(A,B)
II. PERSONAL COMMUNICATION		Wicks	Dave	Colorado Springs, CO	Personal Letter	495	DEIS	2(A,B,F), 3(D), 5(B), 8(2), 12(1)
II. PERSONAL COMMUNICATION		Wilhour	Jane H.		Personal Letter	5301	SDEIS	12(A), 23(P,Z), 26, 28(B,F), 33

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
II. PERSONAL COMMUNICATION		Wilkins	Anne	Georgetown, CO	Personal E-Mail	525	DEIS	2(C,D), 5(A,B,E), 8(F), 12(A)
II. PERSONAL COMMUNICATION		Wilkins	Gary L.	Georgetown, CO	Personal E-Mail	526	DEIS	1, 2(A,B), 3(B,C), 5(C,E), 8(C)
II. PERSONAL COMMUNICATION		Willard	LeRoy		Personal Letter	5489	SDEIS	2(B), 3(A), 9(F), 24(B)
II. PERSONAL COMMUNICATION		Willhour	James R.		Personal Letter	5774	SDEIS	3(A), 12(D), 16(D), 23(Z), 26
II. PERSONAL COMMUNICATION		Willhour	Robert R.		Personal Letter	5300	SDEIS	12(A), 23(P,Z), 26, 28(B,F), 33
II. PERSONAL COMMUNICATION		Williams	Marie Claude		Form Letter #3	5789	SDEIS	23(N,D,P,T), 26, 28(F,H), 29(F)
II. PERSONAL COMMUNICATION		Williams	Marie Claude		Form Letter #5	5801	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Wilson	Linda	Tabernash, CO	Personal Letter	496	DEIS	2(A,D), 3(D), 5(E), 12(A)
II. PERSONAL COMMUNICATION		Wilson	Tom		Form Letter #3	5788	SDEIS	23(N,D,P.T), 26, 28(F,H), 29(F)
II. PERSONAL COMMUNICATION		Wilson	Tom		Form Letter #5	5802	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Windemuller	Douglas L	Pine, CO	Comment Sheet	516	DEIS	2(D), 7(D), 15(D), 16(C)
II. PERSONAL COMMUNICATION		Winter	Kay	Denver, CO	Personal Email	5189	SDEIS	24(B)
II. PERSONAL COMMUNICATION		Winter	Sandra Kay	Denver, CO	Personal Letter	71	DEIS	2(A,D,E), 3(A,B,C,D), 4(A,E), 9(C,E)
II. PERSONAL COMMUNICATION		Wolf	Pauline and M.		Form Letter #5	5758	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Wood			Form Letter #1	107	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Woodard	Ben	Lakewood, CO	Personal Letter	623	DEIS	2(A,C), 3(A), 5(B)
II. PERSONAL COMMUNICATION		Woodard	Laura	Lakewood, CO	Personal Letter	709	DEIS	5(B,D),8(E,F,G)
II. PERSONAL COMMUNICATION		Woodland	Shirley	Pine, CO	Comment Sheet	210	DEIS	2(B,C,D), 4(D), 6(F), 8(G)
II. PERSONAL COMMUNICATION		Woods	Julie		Personal Letter	5773	SDEIS	2(A), 3(A), 16(C,D), 26(A), 29C
II. PERSONAL COMMUNICATION		Woods	Ruthann	Conifer, CO	Personal Letter	497	DEIS	2(A,B,C), 3(A,J), 12(I)

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
II. PERSONAL COMMUNICATION		Writer	Gwendolyn	Georgetown, CO	Form Letter #3	5265	SDEIS	23(N,D,P,T), 26, 28(F,H), 29(F)
II. PERSONAL COMMUNICATION		Writer	Gwendolyn	Georgetown, CO	Form Letter #5	5267	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Zietz	Marion	Lakewood, CO	Personal Letter	624	DEIS	2(B), 3(A), 8(G)
II. PERSONAL COMMUNICATION		None Given	Nick	Loveland, CO	Personal Email	5220	SDEIS	3(B), 26
II. PERSONAL COMMUNICATION		Unknown			Comment Sheet	5207	SDEIS	10(B)
II. PERSONAL COMMUNICATION		Unknown			Comment Sheet	5211	SDEIS	22
II. PERSONAL COMMUNICATION		Unreadable	Bill & Jill	Grand Junction, CO	Personal Letter	625	DEIS	12(A)
II. PERSONAL COMMUNICATION		Unreadable	David		Form Letter #5	5532	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Unreadable			Personal Letter	73	DEIS	4(A,E), 8(F), 9(B), 12(E), 16(E)
II. PERSONAL COMMUNICATION		Unreadable			Personal Letter	74	DEIS	2(A,B,C,E)
II. PERSONAL COMMUNICATION		Unreadable			Form Letter #1	108	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Unreadable			Form Letter #1	109	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Unreadable			Form Letter #1	110	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Unreadable			Form Letter #1	111	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Unreadable			Form Letter #1	112	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Unreadable			Form Letter #1	113	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Unreadable			Form Letter #1	114	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Unreadable			Form Letter #1	115	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Unreadable			Form Letter #1	116	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Unreadable			Form Letter #1	117	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
II. PERSONAL COMMUNICATION		Unreadable			Form Letter #1	118	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Unreadable			Form Letter #1	119	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Unreadable			Form Letter #1	178	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Unreadable			Form Letter #1	179	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Unreadable			Form Letter #1	180	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Unreadable			Form Letter #1	181	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Unreadable			Form Letter #1	182	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Unreadable			Form Letter #1	183	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Unreadable			Form Letter #1	184	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Unreadable			Form Letter #1	185	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Unreadable			Form Letter #1	258	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Unreadable			Form Letter #1	259	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Unreadable			Form Letter #1	260	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Unreadable			Form Letter #1	261	DEIS	2(B,C,D,E), 3(A), 12(E,I), 16(A,B,C,D)
II. PERSONAL COMMUNICATION		Unreadable		Denver, CO	Personal Letter	626	DEIS	2(C), 12(A)
II. PERSONAL COMMUNICATION		Unreadable		Morrison, CO	Form Letter #2	5123	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Unreadable		St. Paul, MN	Form Letter #2	5325	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Unreadable		St. Paul, MN	Form Letter #2	5329	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Unreadable		Lakewood, CO	Form Letter #2	5338	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Unreadable			Form Letter #3	5519	SDEIS	23(N,D,P,T), 26, 28(F,H), 29(F)

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
II. PERSONAL COMMUNICATION		Unreadable			Form Letter #2	5782	SDEIS	7(G), 24(B), 26
II. PERSONAL COMMUNICATION		Unreadable			Form Letter #3	5786	SDEIS	23(N,D,P,T), 26, 28(F,H), 29(F)
II. PERSONAL COMMUNICATION		Unreadable			Form Letter #3	5787	SDEIS	23(N,D,P,T), 26, 28(F,H), 29(F)
II. PERSONAL COMMUNICATION		Unreadable			Form Letter #5	5793	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
II. PERSONAL COMMUNICATION		Unreadable			Form Letter #5	5797	SDEIS	12(I), 23(Z), 24(B), 26(A), 28(B,F), 29(F)
III. PUBLIC HEARING		Abbey	Ann	Georgetown, CO	DEIS Public Hearing	829	DEIS	5(E), 9(B), 16(D,E)
III. PUBLIC HEARING		Allen	Barbara	Georgetown, CO	DEIS Public Hearing	814	DEIS	12(D)
III. PUBLIC HEARING		Allen	Chris	Georgetown, CO	DEIS Public Hearing	800	DEIS	8(D), 9(C), 16(B,E)
III. PUBLIC HEARING		Allen	Christopher	Silver Plume, CO	DEIS Public Hearing	873	DEIS	9(E,G)
III. PUBLIC HEARING		Anderson	Coralue	Georgetown, CO	DEIS Public Hearing	726	DEIS	1, 2(A), 3(C,H), 6(E), 7(C), 9(B), 12(I), 15(A,B), 16(C,D,E)
III. PUBLIC HEARING		Anderson	Coralue	Georgetown, CO	DEIS Public Hearing	838	DEIS	1, 2(A), 3(H), 4(E), 9(E), 16(B,C,D,E)
III. PUBLIC HEARING		Anderson	Coralue		DEIS Public Hearing	849	DEIS	7(A,E,F)
III. PUBLIC HEARING		Anderson	Coralue		DEIS Public Hearing	874	DEIS	1, 4(A), 5(A), 6(B), 7(B), 12(I), 16(C)
III. PUBLIC HEARING		Anderson	Coralue		12/5/00 Public Hearing	5044	SDEIS	1, 23(F,P,D,J), 28(A)
III. PUBLIC HEARING		Anderson	Coralue		12/5/00 Public Hearing	5049	SDEIS	12(A)
III. PUBLIC HEARING		Anderson	Coralue		12/7/00 Public Hearing	5096	SDEIS	23(P,F), 26
III. PUBLIC HEARING		Anderson	Coralue		12/7/00 Public Hearing	5107	SDEIS	23(U,A,J), 26(A)
III. PUBLIC HEARING		Anderson	Henry K. Jr.	Georgetown, CO	DEIS Public Hearing	808	DEIS	1, 2(B,C), 5(C), 6(A), 8(E,G), 13(A,B), 15(A)
III. PUBLIC HEARING		Anderson	Smoky		12/5/00 Public Hearing	5033	SDEIS	23(P,O)
III. PUBLIC HEARING		Anderson	Wendy	Georgetown, CO	DEIS Public Hearing	817	DEIS	4(A), 7(A,G)



COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
III. PUBLIC HEARING		Andrew	Mel		DEIS Public Hearing	877	DEIS	1, 2(B), 9(F), 12(E,I)
III. PUBLIC HEARING		Angell	Elissa	Denver, CO	DEIS Public Hearing	711	DEIS	1, 2(A,C,D), 3(E), 5(B), 6(B,E), 8(E), 14(A)
III. PUBLIC HEARING		Angell	Elissa	Denver, CO	DEIS Public Hearing	731	DEIS	1, 2(B,C), 6(E), 8
III. PUBLIC HEARING		Angell	Elissa	Denver, CO	DEIS Public Hearing	732	DEIS	1, 2(C)
III. PUBLIC HEARING		Angell	Elissa		12/6/00 Public Hearing	5071	SDEIS	23(J), 26(A)
III. PUBLIC HEARING		Angell	Elissa		12/6/00 Public Hearing	5086	SDEIS	23(O)
III. PUBLIC HEARING		Anonymous			DEIS Public Hearing	714	DEIS	7(F), 10
III. PUBLIC HEARING		Armbrust	Lewis	Evergreen, CO	DEIS Public Hearing	715	DEIS	2(A,B,C,D), 3(A), 5(A,B), 8(D,F), 9(B)
III. PUBLIC HEARING		Armburst	William	Kittredge, CO	DEIS Public Hearing	716	DEIS	2(D), 3(A), 9(B)
III. PUBLIC HEARING		Ashmore	Patrick K.	Georgetown, CO	DEIS Public Hearing	827	DEIS	12(A,B), 15(B)
III. PUBLIC HEARING		Axley	Hartman	Denver, CO	DEIS Public Hearing	794	DEIS	2(A,D,E), 3(A), 5(E), 8(F,G)
III. PUBLIC HEARING		Bacigalupi	Tod	Conifer, CO	DEIS Public Hearing	768	DEIS	12(I)
III. PUBLIC HEARING		Bacigalupi	Tod		DEIS Public Hearing	847	DEIS	1, 4(A), 5(E), 7(A)
III. PUBLIC HEARING		Bacigalupi	Tod		DEIS Public Hearing	882	DEIS	1, 2(A), 6(A,C), 7(A)
III. PUBLIC HEARING		Bacigalupi	Todd		12/6/00 Public Hearing	5072	SDEIS	23(U,I), 29(A)
III. PUBLIC HEARING		Bacigalupi	Todd		12/7/00 Public Hearing	5110	SDEIS	23(V)
III. PUBLIC HEARING		Bahrens	Lee		12/5/00 Public Hearing	5027	SDEIS	28(C)
III. PUBLIC HEARING		Bahrens	Lee		12/5/00 Public Hearing	5034	SDEIS	23(O)
III. PUBLIC HEARING		Bahrens	Lee		12/5/00 Public Hearing	5062	SDEIS	23(O)
III. PUBLIC HEARING		Bell	Janice	Georgetown, CO	DEIS Public Hearing	825	DEIS	9(E), 12(D,I)

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
III. PUBLIC HEARING		Bell	Richard	Georgetown, CO	DEIS Public Hearing	824	DEIS	4(C), 7(A), 12(I)
III. PUBLIC HEARING		Bell	Richard		DEIS Public Hearing	875	DEIS	4(A), 15(A)
III. PUBLIC HEARING		Bennett	Maureen		DEIS Public Hearing	891	DEIS	4(A), 5(A,B,C,E)
III. PUBLIC HEARING		Bennett	Maureen		12/5/00 Public Hearing	5056	SDEIS	5(A,B), 17
III. PUBLIC HEARING		Bertoli	Rita		12/6/00 Public Hearing	5080	SDEIS	2(A), 3(B), 23(U)
III. PUBLIC HEARING		Bertolli	Rita	Lakewood, CO	DEIS Public Hearing	773	DEIS	3(C,G,I), 5(A,D,E), 8(B,C), 12(H)
III. PUBLIC HEARING		Bleesz	Mary		DEIS Public Hearing	876	DEIS	1, 2(B), 3(C), 7(B)
III. PUBLIC HEARING		Bolyn	Jan		12/7/00 Public Hearing	5115	SDEIS	10(A)
III. PUBLIC HEARING		Bowes	Tyler		12/6/00 Public Hearing	5085	SDEIS	28(D)
III. PUBLIC HEARING		Bowman	Marci	Idaho Springs, CO	DEIS Public Hearing	718	DEIS	2(D), 12(A)
III. PUBLIC HEARING		Buckland	Phil	Empire, CO	DEIS Public Hearing	775	DEIS	2(A,B,C), 3(B)
III. PUBLIC HEARING		Buckland	Phil		DEIS Public Hearing	887	DEIS	11
III. PUBLIC HEARING		Buckland	Sally		DEIS Public Hearing	885	DEIS	1, 11
III. PUBLIC HEARING		Buckland	Sally Guanella	Empire, CO	DEIS Public Hearing	803	DEIS	11
III. PUBLIC HEARING		Buckland	Sally Guanella		12/7/00 Public Hearing	5090	SDEIS	10(C), 11
III. PUBLIC HEARING		Burrows	Dick	Conifer, CO	DEIS Public Hearing	750	DEIS	2(A,F), 6(E), 12(E,I)
III. PUBLIC HEARING		Burrows	Dick		12/4/00 Public Hearing	5009	SDEIS	2(A), 3(B), 12(H)
III. PUBLIC HEARING		Calhoun	John	Silver Plume, CO	DEIS Public Hearing	770	DEIS	1, 2(F), 3(A,D,G,I), 4(E)
III. PUBLIC HEARING		Capps	Wes	Georgetown, CO	DEIS Public Hearing	798	DEIS	2(A,D), 3(A,B,D,E), 12(G)
III. PUBLIC HEARING		Carpenter	Dave	Shawnee, CO	DEIS Public Hearing	740	DEIS	2(A), 5(A,B)

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
III. PUBLIC HEARING		Carpenter	David		DEIS Public Hearing	845	DEIS	9(E), 12(G,I)
III. PUBLIC HEARING		Champion	Ann	Georgetown, CO	DEIS Public Hearing	812	DEIS	3(A,B), 12(D)
III. PUBLIC HEARING		Champion	Charles	Georgetown, CO	DEIS Public Hearing	813	DEIS	5(A,B), 8(G)
III. PUBLIC HEARING		Chandler	Polly	Georgetown, CO	DEIS Public Hearing	790	DEIS	3(A,E), 6(D), 8(E)
III. PUBLIC HEARING		Church	Kasey		12/4/00 Public Hearing	5008	SDEIS	27
III. PUBLIC HEARING		Claus	Janet		DEIS Public Hearing	871	DEIS	1, 2(A,D), 3(H), 4(A,C), 7(A), 12(D,E), 15(B), 16(C,D,E)
III. PUBLIC HEARING		Corkern	Trey	Grant, CO	DEIS Public Hearing	736	DEIS	2(A,E), 3(B)
III. PUBLIC HEARING		Crespo	Kathy	Pine, CO	DEIS Public Hearing	746	DEIS	2(A,D,E), 8, 12(D,I)
III. PUBLIC HEARING		Debenham	Etta	Evergreen, CO	DEIS Public Hearing	807	DEIS	2(A,B,C), 7(D,G)
III. PUBLIC HEARING		Debenham	Etta		DEIS Public Hearing	879	DEIS	1, 2(A,B,C), 3(A,E,H), 4(A,C), 5(B), 7(B), 12(D)
III. PUBLIC HEARING		Delange	CJ		12/6/00 Public Hearing	5076	SDEIS	11
III. PUBLIC HEARING		Delange	CJ		12/6/00 Public Hearing	5078	SDEIS	22(A)
III. PUBLIC HEARING		DeLong	Jim	Georgetown, CO	DEIS Public Hearing	818	DEIS	7(E), 12(I)
III. PUBLIC HEARING		DeLong	Jim		12/7/00 Public Hearing	5092	SDEIS	12(I), 23(O), 29(C)
III. PUBLIC HEARING		Denver	Bruce		12/6/00 Public Hearing	5088	SDEIS	23(N), 30
III. PUBLIC HEARING		Divis	Pat	Bailey, CO	DEIS Public Hearing	737	DEIS	2(A,D), 3(A)
III. PUBLIC HEARING		Divis	Pat		DEIS Public Hearing	850	DEIS	3(D), 9(B)
III. PUBLIC HEARING		Drucker	Dan		DEIS Public Hearing	853	DEIS	1, 2(B,D)
III. PUBLIC HEARING		Dugan	Megan	Grant, CO	DEIS Public Hearing	756	DEIS	8
III. PUBLIC HEARING		Dugan	Megan		DEIS Public Hearing	863	DEIS	8(E), 16(E)

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
III. PUBLIC HEARING		Dugan	Megan		12/4/00 Public Hearing	5001	SDEIS	17, 26
III. PUBLIC HEARING		Dugan	Megan		12/4/00 Public Hearing	5024	SDEIS	5(B), 17, 23(L,M,N,O), 26
III. PUBLIC HEARING		Dugan	Megan		12/5/00 Public Hearing	5055	SDEIS	17, 23(S,O), 25
III. PUBLIC HEARING		Dugan	Scott	Grant, CO	DEIS Public Hearing	758	DEIS	3(C,D), 5(A,B), 8
III. PUBLIC HEARING		Dugan	Scott		DEIS Public Hearing	856	DEIS	8(E), 9(F)
III. PUBLIC HEARING		Dugan	Scott		12/4/00 Public Hearing	5023	SDEIS	17, 24(B), 26, 29
III. PUBLIC HEARING		Dugan	Scott		12/5/00 Public Hearing	5042	SDEIS	3(L), 17, 23(N)
III. PUBLIC HEARING		Eichler	Garth		12/4/00 Public Hearing	5002	SDEIS	17, 26
III. PUBLIC HEARING		Eichler	Garth		12/4/00 Public Hearing	5019	SDEIS	3(A), 5(A), 23(K)
III. PUBLIC HEARING		Enochs	John	Georgetown, CO	DEIS Public Hearing	783	DEIS	8(E), 12(D), 15(A)
III. PUBLIC HEARING		Fabyanic	Jerry	Georgetown, CO	DEIS Public Hearing	795	DEIS	2(B,D), 3(E), 5(B), 12(D,H), 15(B)
III. PUBLIC HEARING		Faircloth	Phil	Bailey, CO	DEIS Public Hearing	786	DEIS	2(D), 8(E,F)
III. PUBLIC HEARING		Ferrin	Bruce	Bailey, CO	DEIS Public Hearing	749	DEIS	4(A)
III. PUBLIC HEARING		Ferrin	Bruce		DEIS Public Hearing	851	DEIS	1, 2(A,E,D), 3(A,B,D), 4(E), 9(G)
III. PUBLIC HEARING		Ferrin	Judy	Bailey, CO	DEIS Public Hearing	748	DEIS	3(A), 9(C), 12(A)
III. PUBLIC HEARING		Foster	Mike	Golden, CO	DEIS Public Hearing	713	DEIS	2(A,B,C), 5(C,E)
III. PUBLIC HEARING		Frost	George		12/4/00 Public Hearing	5026	SDEIS	12(G), 17, 24(B), 28(B)
III. PUBLIC HEARING		Garinger	Rube		DEIS Public Hearing	884	DEIS	2(A), 4(A,E), 9(F)
III. PUBLIC HEARING		Gordon	Bill		DEIS Public Hearing	840	DEIS	1, 2(A,C)
III. PUBLIC HEARING		Gordon	Jim	Grant, CO	DEIS Public Hearing	741	DEIS	4(A,B,E), 8

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
III. PUBLIC HEARING		Gordon	Mary Dale	Grant, CO	DEIS Public Hearing	739	DEIS	3(F), 8, 15(D), 16(C)
III. PUBLIC HEARING		Gordon	Mary Dale		DEIS Public Hearing	862	DEIS	2(A), 3(A,C,J)
III. PUBLIC HEARING		Gordon	Mary Dale		12/4/00 Public Hearing	5000	SDEIS	17, 26
III. PUBLIC HEARING		Gordon	Mary Dale		12/4/00 Public Hearing	5022	SDEIS	3(A), 8(G)
III. PUBLIC HEARING		Gordon	Rob	Grant, CO	DEIS Public Hearing	728	DEIS	8(E), 9(B,G)
III. PUBLIC HEARING		Gordon	Rob		DEIS Public Hearing	854	DEIS	4(A)
III. PUBLIC HEARING		Gordon	Rob		DEIS Public Hearing	869	DEIS	3(A), 5(E), 6(B), 8(E)
III. PUBLIC HEARING		Gorringer	Ruben F.	Georgetown, CO	DEIS Public Hearing	816	DEIS	2(A,C), 3(A), 4(A,E), 5(B), 8(A), 9(F), 13(A,B)
III. PUBLIC HEARING		Gotschalk	Libbie	Littleton, CO	DEIS Public Hearing	820	DEIS	3(G), 5(E), 7(A)
III. PUBLIC HEARING		Gottschalk	Libbie	Littleton, CO	DEIS Public Hearing	721	DEIS	2(B,C), 3(A), 5(A), 8, 12(I)
III. PUBLIC HEARING		Gottschalle	Libbie		DEIS Public Hearing	870	DEIS	1, 2(B,C), 6(A), 7(A)
III. PUBLIC HEARING		Gottshalk	Libby		12/6/00 Public Hearing	5082	SDEIS	23(P,D)
III. PUBLIC HEARING		Gottshalk	Libby		12/7/00 Public Hearing	5094	SDEIS	17, 26(A)
III. PUBLIC HEARING		Greksa	Mark	Georgetown, CO	DEIS Public Hearing	793	DEIS	2(A), 5(A,B,C,E), 12(E,I), 15(A)
III. PUBLIC HEARING		Greksa	Mark		DEIS Public Hearing	892	DEIS	2(A,B,D), 3(A,C), 5(B,C), 7(1), 8(2), 12(D,H), 15(B)
III. PUBLIC HEARING		Griffin	Karen	Pine, CO	DEIS Public Hearing	747	DEIS	1, 2(B,C,F), 3(A), 5(B,C), 9(C), 12(H)
III. PUBLIC HEARING		Guarella	Glenda	Empire, CO	DEIS Public Hearing	778	DEIS	11, 21
III. PUBLIC HEARING		Gulley, Jr.	J .L.	Georgetown, CO	DEIS Public Hearing	797	DEIS	9(C), 12(E,I)
III. PUBLIC HEARING		Hallberg	Mary Ellen	Georgetown, CO	DEIS Public Hearing	815	DEIS	3(A), 7(A), 16(C,E)
III. PUBLIC HEARING		Hartl	Joe	Bailey, CO	DEIS Public Hearing	811	DEIS	4(E), 8(D), 9(F)

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
III. PUBLIC HEARING		Hartong	Bill	Georgetown, CO	DEIS Public Hearing	785	DEIS	20, 21
III. PUBLIC HEARING		Hartong	Elaine	Georgetown, CO	DEIS Public Hearing	784	DEIS	8(E)
III. PUBLIC HEARING		Harvey	Edward	Grant, CO	DEIS Public Hearing	738	DEIS	2(A,C), 3(F), 8, 15(D)
III. PUBLIC HEARING		Harvey	Edward		DEIS Public Hearing	841	DEIS	8(E), 9(E,F)
III. PUBLIC HEARING		Hisgen	Harv	Golden, CO	DEIS Public Hearing	729	DEIS	14(C)
III. PUBLIC HEARING		Holmes	Julie	Georgetown, CO	DEIS Public Hearing	765	DEIS	10(A), 11
III. PUBLIC HEARING		Holmes	Julie		DEIS Public Hearing	889	DEIS	10
III. PUBLIC HEARING		Holmes	Julie		12/7/00 Public Hearing	5098	SDEIS	7(A,G)
III. PUBLIC HEARING		Homes	Julie		12/4/00 Public Hearing	5017	SDEIS	2(B)
III. PUBLIC HEARING		Hotkins	Wilson	Denver, CO/Grant, CO	DEIS Public Hearing	753	DEIS	8(E)
III. PUBLIC HEARING		Houston	Rod		12/6/00 Public Hearing	5084	SDEIS	29
III. PUBLIC HEARING		Howell	Sue		DEIS Public Hearing	788	DEIS	2(D), 3(B,E), 5(B), 8(E,F)
III. PUBLIC HEARING		Hunninen	Kathy		DEIS Public Hearing	890	DEIS	1, 2(E), 3(A), 4(E), 6(A,B)
III. PUBLIC HEARING		Hust	Frances		DEIS Public Hearing	878	DEIS	2(A,B), 5(B), 12(I)
III. PUBLIC HEARING		Jackson	David		12/6/00 Public Hearing	5081	SDEIS	12(D)
III. PUBLIC HEARING		James	Karen		12/5/00 Public Hearing	5053	SDEIS	3(A)
III. PUBLIC HEARING		James	Lynda		12/4/00 Public Hearing	5007	SDEIS	17, 23(B,F,C,D,E,G), 24(A)
III. PUBLIC HEARING		Jeffers	Paul		DEIS Public Hearing	868	DEIS	2(A,C), 3(J), 12(A)
III. PUBLIC HEARING		Jefferson	Mike		12/7/00 Public Hearing	5112	SDEIS	11
III. PUBLIC HEARING		Johnson	Violet	Idaho Springs, CO	DEIS Public Hearing	787	DEIS	7(G)

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
III. PUBLIC HEARING		Jones	Bob		DEIS Public Hearing	866	DEIS	12(G)
III. PUBLIC HEARING		Jones	Bob		12/7/00 Public Hearing	5106	SDEIS	23(A)
III. PUBLIC HEARING		Jones	Bob		12/7/00 Public Hearing	5108	SDEIS	23(A)
III. PUBLIC HEARING		Jones	Dave	Evergreen, CO	DEIS Public Hearing	722	DEIS	13
III. PUBLIC HEARING		Jones	David		12/6/00 Public Hearing	5075	SDEIS	17, 22, 29(B)
III. PUBLIC HEARING		Joye	Darin		12/4/00 Public Hearing	5018	SDEIS	5(C,E), 23(J)
III. PUBLIC HEARING		Kauffman	Jeff	Englewood, CO	DEIS Public Hearing	761	DEIS	2(A,B), 3(A), 8
III. PUBLIC HEARING		Keller	Linda		12/6/00 Public Hearing	5067	SDEIS	2(A), 3(A), 26(A)
III. PUBLIC HEARING		Kelly	Glenn	Grant, CO	DEIS Public Hearing	760	DEIS	2(A,B), 3(A), 4(A), 5(B), 8
III. PUBLIC HEARING		Kelson	Betsy	Georgetown, CO	DEIS Public Hearing	836	DEIS	3(A,C,D,E), 5(E), 8(A,G), 9(F), 12 (B,I)
III. PUBLIC HEARING		Kemple	Joan		12/7/00 Public Hearing	5100	SDEIS	29(C)
III. PUBLIC HEARING		Kessler	Ron		DEIS Public Hearing	867	DEIS	2(D), 9(C)
III. PUBLIC HEARING		Kingery	Gayle	Bailey, CO	DEIS Public Hearing	743	DEIS	8(G)
III. PUBLIC HEARING		Kingery	Richard A.	Bailey, CO	DEIS Public Hearing	744	DEIS	12(A)
III. PUBLIC HEARING		Krueger	John	Evergreen, CO	DEIS Public Hearing	837	DEIS	2(A,B,D), 3(A), 4(D,E), 5(E), 7(A,C), 8(F), 16(C,D,E)
III. PUBLIC HEARING		Krueger	John		DEIS Public Hearing	843	DEIS	6(A), 7(A,C,D)
III. PUBLIC HEARING		Krueger	John		DEIS Public Hearing	872	DEIS	1, 2(B), 8(E), 9(B), 16(D,E)
III. PUBLIC HEARING		Krueger	John		12/5/00 Public Hearing	5048	SDEIS	23(O)
III. PUBLIC HEARING		Krueger	John		12/5/00 Public Hearing	5050	SDEIS	28(C), 32
III. PUBLIC HEARING		Lahrman	James		DEIS Public Hearing	857	DEIS	1, 2(A), 3(A,D,E), 8(E)

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
III. PUBLIC HEARING		Lambert	Ed	Evergreen, CO	DEIS Public Hearing	755	DEIS	2(C), 3(A), 8(D)
III. PUBLIC HEARING		Lands	Lark	Georgetown, CO	DEIS Public Hearing	796	DEIS	2(C), 3(B,D), 6(C,F), 13(A)
III. PUBLIC HEARING		Lankford	Polly	Georgetown, CO	DEIS Public Hearing	822	DEIS	7(A,D)
III. PUBLIC HEARING		Larman	James		12/4/00 Public Hearing	5011	SDEIS	3(A)
III. PUBLIC HEARING		Larrick	Louise G.	Georgetown, CO	DEIS Public Hearing	791	DEIS	2(B), 3(A,J), 4(A,B), 9(C)
III. PUBLIC HEARING		Leland	Kathy		DEIS Public Hearing	893	DEIS	34
III. PUBLIC HEARING		Leven	Mark		12/7/00 Public Hearing	5104	SDEIS	23(A), 29
III. PUBLIC HEARING		Leven	Mark		12/7/00 Public Hearing	5111	SDEIS	23(A)
III. PUBLIC HEARING		Lewis	Bob	Conifer, CO	DEIS Public Hearing	751	DEIS	7(A)
III. PUBLIC HEARING		Lewis	Jean H.	Englewood, CO	DEIS Public Hearing	830	DEIS	3(A), 12(I)
III. PUBLIC HEARING		Markovitz	Laurie	Georgetown, CO	DEIS Public Hearing	789	DEIS	4(D), 5(E), 8(F,G), 12(D)
III. PUBLIC HEARING		Marrone	Marty		12/5/00 Public Hearing	5032	SDEIS	23(P)
III. PUBLIC HEARING		Marsh	Tracy	Fort Collins, CO	DEIS Public Hearing	757	DEIS	8
III. PUBLIC HEARING		Massey	Marlies	Georgetown, CO	DEIS Public Hearing	804	DEIS	2(A,D), 12(D)
III. PUBLIC HEARING		Massey	Rance	Georgetown, CO	DEIS Public Hearing	805	DEIS	2(B,C), 3C, 9(E)
III. PUBLIC HEARING		Miceli	Belinda	Pine, CO	DEIS Public Hearing	745	DEIS	8, 9(C)
III. PUBLIC HEARING		Mickley	Ms.		12/5/00 Public Hearing	5051	SDEIS	23(L)
III. PUBLIC HEARING		Millot	Martha		12/6/00 Public Hearing	5079	SDEIS	3(A)
III. PUBLIC HEARING		Mlodzik	Roger	Pine, CO	DEIS Public Hearing	764	DEIS	11, 14(A)
III. PUBLIC HEARING		Moore	Michael		12/7/00 Public Hearing	5089	SDEIS	23(F), 29(A,C)



COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
III. PUBLIC HEARING		Moore	Mike		12/5/00 Public Hearing	5065	SDEIS	12, 17
III. PUBLIC HEARING		Muenchow	Kurt	Morrison, CO	DEIS Public Hearing	712	DEIS	1, 2(A,E), 3(A), 5(B,E), 6(E), 8(B,C), 9(B,F)
III. PUBLIC HEARING		Muenchow	Kurt	Morrison, CO	DEIS Public Hearing	723	DEIS	1, 2(B,C,D,F), 3(A), 4(A), 5(A,B,E), 6(A,B,D,E), 7(A,B),8(C), 9(F), 12(C,D), 15(D), 16(B)
III. PUBLIC HEARING		Muetz	Percy	Bailey, CO	DEIS Public Hearing	734	DEIS	2(A,D), 3(A), 4(A), 7, 20
III. PUBLIC HEARING		Murphy	Bennett	Grant, CO	DEIS Public Hearing	735	DEIS	3(F), 15(D)
III. PUBLIC HEARING		Murphy	Bennett		DEIS Public Hearing	842	DEIS	2(E), 8(E)
III. PUBLIC HEARING		Murphy	Bennit		12/4/00 Public Hearing	5005	SDEIS	8(E), 16(D)
III. PUBLIC HEARING		Neale	Terry		12/4/00 Public Hearing	5013	SDEIS	4(E), 5(F), 9(B), 16(D)
III. PUBLIC HEARING		Neely	Cynthia		12/7/00 Public Hearing	5093	SDEIS	16, 23(O), 29
III. PUBLIC HEARING		Neely	Cynthia C.	Georgetown, CO	DEIS Public Hearing	780	DEIS	1, 2(B,D), 3(A,D), 6(B), 12(I)
III. PUBLIC HEARING		Nelson	Ken	Georgetown, CO	DEIS Public Hearing	819	DEIS	2(B), 9(B)
III. PUBLIC HEARING		Neville	Bob	Shawnee, CO	DEIS Public Hearing	752	DEIS	8(E)
III. PUBLIC HEARING		Nevious	Bill		DEIS Public Hearing	844	DEIS	6(A), 9(B,G)
III. PUBLIC HEARING		Nikkel	Dave		12/6/00 Public Hearing	5069	SDEIS	3(A), 24(C)
III. PUBLIC HEARING		Nisler	Paul		12/5/00 Public Hearing	5037	SDEIS	23(M)
III. PUBLIC HEARING		Novak	Diane		DEIS Public Hearing	858	DEIS	2(B)
III. PUBLIC HEARING		Olsen	Bill		12/7/00 Public Hearing	5102	SDEIS	23(E), 24(D)
III. PUBLIC HEARING		Page	Barb		DEIS Public Hearing	888	DEIS	1, 2(F), 3(A,J), 5(A,B), 9(B,E)
III. PUBLIC HEARING		Page	Barbara		DEIS Public Hearing	792	DEIS	5(B,C), 8(C), 12(D)
III. PUBLIC HEARING		Page	Barbara	Georgetown, CO	DEIS Public Hearing	802	DEIS	2(F), 13(A)

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
III. PUBLIC HEARING		Page	Barbara		12/5/00 Public Hearing	5036	SDEIS	28(C), 30
III. PUBLIC HEARING		Page	Barbara		12/5/00 Public Hearing	5057	SDEIS	23(F,P,R)
III. PUBLIC HEARING		Paterson	Jack	Littleton, CO	DEIS Public Hearing	730	DEIS	2(A,F), 5(B), 12(I)
III. PUBLIC HEARING		Pequette	Jim	Georgetown, CO	DEIS Public Hearing	810	DEIS	6(A)
III. PUBLIC HEARING		Pequette	Naomi	Georgetown, CO	DEIS Public Hearing	809	DEIS	2(A), 8(E,G)
III. PUBLIC HEARING		Peterson	Jim	Evergreen, CO	DEIS Public Hearing	769	DEIS	2(D), 4(A), 5(B), 8(C), 12(I)
III. PUBLIC HEARING		Pinkowitz	Susan		12/4/00 Public Hearing	5012	SDEIS	23(G), 24(B), 26
III. PUBLIC HEARING		Pinkowitz	Ted		12/4/00 Public Hearing	5010	SDEIS	25
III. PUBLIC HEARING		Porter	Robert		DEIS Public Hearing	865	DEIS	1, 2(B), 4(A), 12(E,I)
III. PUBLIC HEARING		Prendergast	Bob	Georgetown, CO	DEIS Public Hearing	826	DEIS	12(A,F)
III. PUBLIC HEARING		Prendergast	Lynda	Georgetown, CO	DEIS Public Hearing	828	DEIS	7(A,F,G)
III. PUBLIC HEARING		Primus	Bob		12/5/00 Public Hearing	5039	SDEIS	23(D,N)
III. PUBLIC HEARING		Primus	Bob		12/5/00 Public Hearing	5054	SDEIS	17
III. PUBLIC HEARING		Pyle	Jocelyn	Georgetown, CO	DEIS Public Hearing	777	DEIS	2(B,C), 8(B,E)
III. PUBLIC HEARING		Que	Wendel		12/7/00 Public Hearing	5116	SDEIS	29
III. PUBLIC HEARING		Radley	Christy		12/5/00 Public Hearing	5063	SDEIS	23(O)
III. PUBLIC HEARING		Ravizzo	Aubrey		12/4/00 Public Hearing	5014	SDEIS	3(A), 23(J), 26
III. PUBLIC HEARING		Reichwein	Betty	Dumont	DEIS Public Hearing	806	DEIS	2(C), 8(B,C,E,G)
III. PUBLIC HEARING		Reichwein	Mel	Georgetown, CO	DEIS Public Hearing	774	DEIS	11
III. PUBLIC HEARING		Ruhter	Edward	Georgetown, CO	DEIS Public Hearing	835	DEIS	12(D)

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III. PUBLIC HEARING		Rutter	Tom	Denver, CO	DEIS Public Hearing	717	DEIS	2(A,D), 3(A,J), 6(E), 8(A,C)
III. PUBLIC HEARING		Sanders	Bill	Idaho Springs, CO	DEIS Public Hearing	719	DEIS	2(A,B,D), 5(A,B), 6(E)
III. PUBLIC HEARING		Sanders	Helen	Georgetown, CO	DEIS Public Hearing	772	DEIS	2(A), 8(G)
III. PUBLIC HEARING		Scott	Bill	Englewood, CO	DEIS Public Hearing	724	DEIS	8
III. PUBLIC HEARING		Scott	Bill	Georgetown, CO	DEIS Public Hearing	831	DEIS	1, 2(A), 8(E)
III. PUBLIC HEARING		Scott	Greg		DEIS Public Hearing	880	DEIS	6(B,D)
III. PUBLIC HEARING		Scott	Jacob M.	Englewood, CO	DEIS Public Hearing	834	DEIS	2(F), 3(A)
III. PUBLIC HEARING		Scott	Julia	Georgetown, CO	DEIS Public Hearing	832	DEIS	1, 3(H), 8(E), 12(H), 16(E)
III. PUBLIC HEARING		Scott	Julie	Englewood, CO	DEIS Public Hearing	725	DEIS	6(B), 8(E)
III. PUBLIC HEARING		Shimon	Shirley	Englewood, CO	DEIS Public Hearing	821	DEIS	7(A,E,F)
III. PUBLIC HEARING		Shina	Shirley		12/5/00 Public Hearing	5061	SDEIS	23(N)
III. PUBLIC HEARING		Shirlaw	Bob	Georgetown, CO	DEIS Public Hearing	771	DEIS	3(D), 7(E)
III. PUBLIC HEARING		Shirlaw	Jan		12/5/00 Public Hearing	5040	SDEIS	12(G)
III. PUBLIC HEARING		Shirlaw	Jan		12/5/00 Public Hearing	5058	SDEIS	30
III. PUBLIC HEARING		Skeen	Cynthia		12/5/00 Public Hearing	5029	SDEIS	24(A)
III. PUBLIC HEARING		Skeen	Cynthia		12/5/00 Public Hearing	5031	SDEIS	23(G)
III. PUBLIC HEARING		Slavec	Paul	Georgetown, CO	DEIS Public Hearing	782	DEIS	8(E), 12(G)
III. PUBLIC HEARING		Smith	Kelly		12/4/00 Public Hearing	5003	SDEIS	17, 26
III. PUBLIC HEARING		Smith	Rocky	Denver, CO	DEIS Public Hearing	720	DEIS	1, 2(A,B,C,G), 3(A,H,J), 7(A), 8(G), 12(E)
III. PUBLIC HEARING		Smith	Shanna		12/4/00 Public Hearing	5004	SDEIS	17, 26

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III. PUBLIC HEARING		Stauffer	Jack	Georgetown, CO	DEIS Public Hearing	776	DEIS	4(A), 18
III. PUBLIC HEARING		Stern	Mort		12/7/00 Public Hearing	5099	SDEIS	RELEVANCE OF COMMENTS
III. PUBLIC HEARING		Stimson	Nancy		DEIS Public Hearing	859	DEIS	1, 3(J), 8(G)
III. PUBLIC HEARING		Straub	D'Arcy		DEIS Public Hearing	864	DEIS	1, 2(A)
III. PUBLIC HEARING		Sweetser	Elliot		12/7/00 Public Hearing	5091	SDEIS	2(A), 12(A), 29
III. PUBLIC HEARING		Tharp	Patty Jo	Evergreen, CO	DEIS Public Hearing	781	DEIS	12(D), 21
III. PUBLIC HEARING		Todd	Janet	Conifer, CO	DEIS Public Hearing	754	DEIS	2(A), 5(A), 9(C)
III. PUBLIC HEARING		Tolpo	Caroline	Shawnee, CO	DEIS Public Hearing	767	DEIS	4(A), 7(A,G)
III. PUBLIC HEARING		Tolpo	Vincent	Shawnee, CO	DEIS Public Hearing	766	DEIS	2(B,C,F), 3(A,E,H), 5(B), 7(A), 16(B)
III. PUBLIC HEARING		Tolpo	Vincent		DEIS Public Hearing	846	DEIS	1, 7(A)
III. PUBLIC HEARING		Ulmer	Nick	Georgetown, CO	DEIS Public Hearing	839	DEIS	12(D,E,G,I), 16(D,E)
III. PUBLIC HEARING		Wagner	Fred		DEIS Public Hearing	861	DEIS	1, 5(E), 9(B)
III. PUBLIC HEARING		Wagner	Tom		12/7/00 Public Hearing	5114	SDEIS	11, 23(A)
III. PUBLIC HEARING		Waligroski	Jeanne		12/5/00 Public Hearing	5028	SDEIS	28(C)
III. PUBLIC HEARING		Weaver	Bert		DEIS Public Hearing	883	DEIS	12(G)
III. PUBLIC HEARING		Weaver	Bert		12/4/00 Public Hearing	5020	SDEIS	27
III. PUBLIC HEARING		Wells	Jeff	Conifer, CO	DEIS Public Hearing	762	DEIS	2(A,B), 4(A), 5(B), 12(A)
III. PUBLIC HEARING		Wells	Jeff		DEIS Public Hearing	860	DEIS	1, 3(A,D,J), 4(A)
III. PUBLIC HEARING		Wells	Jess		12/4/00 Public Hearing	5025	SDEIS	17, 26
III. PUBLIC HEARING		Wells	Katy	Pine, CO	DEIS Public Hearing	742	DEIS	2(C,D,E), 3(H), 12(A)

COMMENT CLASSIFICATION	AGENCY	LAST NAME	FIRST NAME	CITY & STATE	FORM OF COMMENT	ID NUMBER	DOCUMENT	CATEGORY / SUBCATEGORY
III. PUBLIC HEARING		Wells	Marion	Conifer, CO	DEIS Public Hearing	763	DEIS	2(D,F), 5(A,B), 12(A)
III. PUBLIC HEARING		Westlake	Kay	Georgetown, CO	DEIS Public Hearing	799	DEIS	8(E), 15(A)
III. PUBLIC HEARING		Westling	Elizabeth		DEIS Public Hearing	852	DEIS	10(A,B)
III. PUBLIC HEARING		Wheelock	Eileen	Georgetown, CO	DEIS Public Hearing	823	DEIS	1, 2(F), 4(A), 14(B), 19(19)
III. PUBLIC HEARING		Willard	I. Leroy	Idaho Springs, CO	DEIS Public Hearing	779	DEIS	7(E), 8(E), 13(A)
III. PUBLIC HEARING		Wilson	Bill		12/5/00 Public Hearing	5035	SDEIS	23(O), 29
III. PUBLIC HEARING		Wilson	Bill		12/5/00 Public Hearing	5064	SDEIS	12(D), 22, 29
III. PUBLIC HEARING		Wilson	Katherine	Georgetown, CO	DEIS Public Hearing	833	DEIS	2(A), 5(E), 7(B,F)
III. PUBLIC HEARING		Wilson	Kathy		12/5/00 Public Hearing	5060	SDEIS	12(D)
III. PUBLIC HEARING		Wilson	Kathy		12/7/00 Public Hearing	5109	SDEIS	23(V), 32
III. PUBLIC HEARING		Wilson	Kathy		12/7/00 Public Hearing	5113	SDEIS	28(E)
III. PUBLIC HEARING		Windemuller	Doug	Pine, CO	DEIS Public Hearing	733	DEIS	1, 2(A,D), 3(J), 4(A), 6(F), 8(C), 12(1), 15(D), 16(C), 18, (18)
III. PUBLIC HEARING		Windemuller	Doug		DEIS Public Hearing	855	DEIS	2(A)
III. PUBLIC HEARING		Woods	Johnny		12/5/00 Public Hearing	5059	SDEIS	23(T)
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III. PUBLIC HEARING		Yaeger	Gary		12/4/00 Public Hearing	5016	SDEIS	2(A), 3(A), 4(E), 8
III. PUBLIC HEARING		Yarrol	Lyn		DEIS Public Hearing	848	DEIS	2(C,D,E), 7(A,B,D)
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III. PUBLIC HEARING		Yarrol	Lyn		12/6/00 Public Hearing	5073	SDEIS	3(A), 26(A), 29(B)
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III. PUBLIC HEARING		Yarrol	Lyn		12/7/00 Public Hearing	5105	SDEIS	23(A)
III. PUBLIC HEARING		Yarroll	Lyn	Conifer, CO	DEIS Public Hearing	759	DEIS	7(A)
III. PUBLIC HEARING		Yarroll	Lyn		DEIS Public Hearing	881	DEIS	1, 2(A,B,C,D,F), 3(H), 6, 7(A,B,D)
III. PUBLIC HEARING		Yoensky	Ed	Denver, CO	DEIS Public Hearing	727	DEIS	2(A,B,C), 5(A), 6(B), 7, 8
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# Responses to DEIS COMMENTS

## Category 1: DEIS Does Not Address All Issues

This category was established to represent the overall comment that the DEIS either did not address all issues or did not address them adequately. As a result, the SDEIS was developed to provide an additional alternative that would provide an acceptable build alternative that would have a lesser impact upon the environment and affected community. Specific commentaries as they relate to the DEIS and subsequent SDEIS follow in categories 2 through 35.

## Category 2: Overuse of Guanella Pass

This category refers to the overuse of Guanella Pass that results from any major improvements. The improvements would bring more activity to the Guanella Pass area, creating a situation of overuse. This overuse leads to the impacts in the subcategories listed below:

### A. Increase in people, traffic, noise, and pollution in the area

#### *People and traffic*

Under Alternative 1, traffic volumes are projected to increase 56 percent by the year 2025 over 1995 traffic volumes. Alternative 6 was developed in response to concerns related to reducing the rate of growth in traffic and noise volumes for the project. Traffic volumes under Alternative 6 are projected to increase an additional 20 percent at the summit over Alternative 1, which is considerably less than the build alternatives 2-5. For further information see **Section III.B.1b**.

#### *Noise*

A noise analysis was conducted for the Guanella Pass Road improvement project. The existing condition, Alternative 1, and all build alternatives (Alternatives 2-6) were analyzed.

Based on the noise analysis, none of the alternatives produce substantial traffic noise impacts. State transportation agencies do not implement mitigation measures for changes in noise levels of less than 10 to 15 dBA. None of the areas analyzed were projected to experience more than a 3-dBA increase with future traffic projections. It should be noted that along Loop Drive, noise levels are produced primarily by traffic on Interstate 70 and not Guanella Pass Road. No substantial benefit is derived from mitigation of local traffic noise produced by the project. For further information see **Section III.C.2**.

#### *Air Pollution*

The proposed project is located in an area designated as “attainment by the EPA. As a result, pollution in the area from vehicle emissions would increase in proportion to the traffic increase, but would still not pose any threat to wildlife populations, vegetation, or human populations. For further information see **Section III.C.1**.

**B. Environmental impacts such as soil erosion and sedimentation, with additional impacts to wetlands, water quality, and the alpine tundra**

Alternative 6 will improve the existing conditions that degrade the water quality, such as eroding roadway ditches, shoulders, and embankments. The use of best management practices (BMP's) during and after construction and an aggressive revegetation program are expected to improve the conditions for water quality. Alternative surface types create a harder surface than reconstructed gravel, which may provide more opportunity for erosion control and reduced sedimentation runoff.

In addition to improvements made to drainage structures, ditches, and sediment control structures, improvements such as earth berms and boulders adjacent to the road will control off-road access or dispersed access to public lands along the road. Controlling this access will reduce impacts to sensitive areas near the road. For further information see **Section III.B.2a, III.B.2b, and IV.I.3.**

**C. Wildlife impacts such as habitat degradation, fragmentation, and impacts to threatened or endangered species**

Alternative 6 has a lower design criteria than any of the DEIS build alternatives. This includes a narrower roadway and reduced design speed, resulting in reduced impacts to wildlife and wildlife habitat. Road improvements such as the use of guardrail, designated pullouts, and defined parking areas will control off-road access or dispersed access to public lands along the road, which could be a benefit to wildlife.

Winter closure (to be decided by local agencies) could also result in beneficial reduction of potential impacts to wildlife in the Guanella Pass area. For further information see **Section III.B.5.**

**D. The creation of an Interstate 70 – US 285 system linkage that the infrastructure cannot handle**

Proposed improvements under Alternative 6 are not designed to encourage the use of Guanella Pass Road as a connector between I-70 and US 285. The classification of Guanella Pass Road as a rural local road allows the use of lower design criteria such as lower design speed and sharper curvature, which make the route less attractive for through traffic.

Management responsibilities for maintaining the use of the roadway as a rural local road fall under local agencies, including discouragement of an increase in through traffic. These responsibilities may include the possible use of size limits or seasonal travel restrictions. For further information see **Section II.D.4a-b, and II.D.6.**

**E. Encouragement of unwanted development/sprawl**

As stated in the DEIS, improving Guanella Pass Road is not expected to substantially increase the population of Georgetown, Clear Creek County, or Park County above the current projections. Only a small proportion of land along Guanella Pass Road is privately owned. Most of the land is owned by the Federal Government and administered by the FS. Historic Georgetown or the Historic District Public Lands Commission holds much of the private land near Georgetown and the

Georgetown Reservoir for the purpose of protecting it from development. As a result, improving the road will cause little additional development in the corridor.

Future development, either commercial or residential, would be regulated by the land management agencies to reflect a rural local road functional classification.

Potential secondary impacts to land use include increased tourist-oriented and recreation development. However, because Georgetown and Silver Plume are in historic districts, some controls are in effect to determine the style and type of development or redevelopment that may occur within these towns (such as the zoning restrictions passed in the fall of 2001). For further information see **Sections III.B.1c, III.B.1e, and III.B.1f**.

#### **F. Overuse by vehicles of a size and width that is excessive for this type of road**

Alternative 6 proposes a decreased vehicle size as compared to the DEIS build alternatives (17 feet vs. 20 feet). Roadway use restrictions may be implemented by local agencies that would regulate the size of vehicles using the road. For further information see **Section II.D.4c**.

#### **G. The proposed parking lot at the top of Guanella Pass to accommodate more people would be out of character**

Locations of pullouts and parking areas will be consistent with FS Visual Quality Objectives in areas that were determined to be necessary for the protection of FS area resources.

Proposed parking at the top of Guanella Pass has been revised since the DEIS. The proposed parking is anticipated to accommodate approximately 100 vehicles, which is less than proposed in the DEIS and is currently less than the number of vehicles that park there on the weekend (estimated 175 vehicles). Roadway designs will discourage vehicles from pulling off the road. The proposed parking at the summit does not meet the projected year 2025 demand and assumes that designated parking and/or a Wilderness Use Permit will limit use of the area. For further information see **Section II.E.1, III.B.3**.

### **Category 3: Loss of Character**

This category addresses issues raised concerning the rustic character that commenters believe would be lost in the Guanella Pass area with any major improvements to the roadway. Subcategories range from the loss of visual character to the emotional impacts that reconstruction would have on local residents as well as to visitors in the area. The subcategories related to this loss of character are as follows:

#### **A. Major improvements ruin the beauty and present character of the area**

Alternative 6 was developed specifically to minimize the impact of the project on the character of the road. New design criteria allow a narrower road with slower speeds and fewer areas of full reconstruction, allowing a more rustic and scenic roadway setting. The change in community character is to some extent proportional to the increase in traffic volume. Impacts to the character of the community under Alternative 6 would be less than for the DEIS build alternatives due to lower traffic volume.

Improvements under Alternative 6 also have less visual impact to the surrounding area. This alternative is intended to better retain the visual quality and character of the road than the other DESI build alternatives, resulting in a more rustic and scenic roadway setting. Based on the road character elements defined in **Table III-12** of the FEIS, Alternative 6 is the most consistent of all alternatives in keeping with the existing character of the road.

Alternative surface types were evaluated which would help preserve the character of the road. Other design considerations included retaining walls, slope treatments and revegetation, and guardrail design and materials that are visually in keeping with the rural character of the road. For further information see **Section III.B.1a, III.B.3**

#### **B. The dwindling natural beauty and wilderness of Colorado must be protected**

The scenic quality of the road will actually be enhanced by improvements under Alternative 6 such as revegetation of cut slopes up to the edge of the road (currently, poor surface conditions prevent vegetation from growing to the edge of the road). For further information see **Section III.B.3**.

#### **C. Improvements lessen the quality of life for residents**

Traffic forecasts for each of the alternatives show that Alternative 6 will have the least traffic impact of all build alternatives, with minimal change in the quality of life for residents and the community character. Construction schedules and haul routes will be designed to minimize impacts to area residents and visitors. For further information see **Section III.B.1a-d**.

#### **D. Desirable qualities of Guanella Pass would be forever altered**

Alternative 6 was presented after the public commented on the DEIS build alternatives. Compared to other build alternatives, Alternative 6 minimizes changes in desirable qualities of the road, and better preserves the existing beauty and character of the road by providing a more environmentally and aesthetically sensitive alternative through reduced design criteria.

Improvements that are found in Alternative 6 are designed to enhance the scenic qualities of Guanella Pass and increase environmental protection. Some of these measures include the revegetation of unstable slopes, improvements to roadway drainage, reduction in road surface sedimentation, and the addition of designated pullouts and relocation of parking areas to restrict access to environmentally sensitive areas. For further information see **Sections III.B.1a and III.B.3**.

#### **E. Cars will carry people over Guanella Pass too quickly to enjoy pristine environment, the recreation opportunities, and the amenities that local businesses have to offer**

The design speed of Alternative 6 varies between 20 to 30 mph - 6 mph less than the DEIS build alternatives. The lower design speed and curvilinear alignment of the roadway will discourage vehicles from traveling at excessive speeds, accommodating a more leisurely pace. For further information see **Section II.D.4b**.

#### **F. Dude ranches depend on existing character for business**

Alternative 6 was developed in response to concerns about a loss of character for the road. Alternative 6 includes a narrower roadway with more rehabilitation and light reconstruction sections than the DEIS Alternatives. Alternative 6 was developed to better preserve the rustic and rural character of the existing road. Limitation of hauling and construction activities in the vicinity of the dude ranch will minimize impacts on the existing character and business. For further information see **Sections III.B.1d and IV.I.**

#### **G. There is a need to balance transportation with the sensitive nature of the environment**

FHWA believes Alternative 6 strikes a balance between transportation needs and minimizing impacts to the environment by reconstructing only selected portions of the corridor that are in greatest need of transportation improvements, while retaining the existing roadway characteristics in most locations.

#### **H. Reconstruction would impact the scenic byway designation of the roadway as well as the Historic District and landmarks**

Based on the information presented in the Corridor Management Strategy (CMS), the Scenic Byway Committee supports improvements to Guanella Pass Road to preserve the Scenic Byway. The CMS also supports the improvements to the roadway as a means of stabilizing and enhancing the roadway and the beauty of the area. Visitor use of the Guanella Pass area continues to increase, making it difficult for the FS to manage. The FS believes that the proposed improvements will aid in their ability to manage the area by restricting off-road access to sensitive areas.

Alternative 6 is anticipated to have less traffic and requires less construction hauling within the Historic Landmark District than the DEIS build alternatives. The narrower roadway width and reduced curve radii in the Georgetown area reduce the visual impact to Leavenworth Mountain and the Historic District.

Improvements such as retaining walls, careful blasting techniques, rock-cut stain, and revegetation will be used to minimize visual impacts to Section 4(f) Resources. Additionally, architectural treatments will be incorporated into the retaining wall design to reflect the backdrop and character of the historic district. Neither the State Historic Preservation Officer nor the National Park Service, which oversees projects in the National Landmark Districts have indicated that the project would adversely effect the Historic Landmark Status of the Historic District of Georgetown. For further information see **Section III.B.1g, III.B.3, and IV.A.**

#### **I. Creative ways to protect and preserve the present quality of Guanella Pass should be presented**

During the development of Alternative 6, flexibility and creativity was exercised in the selection of design criteria and solutions that required less reconstruction. These criteria and solutions also allowed more rehabilitation work, a narrower roadway, a slower design speed, tighter curve radii,

smaller design vehicles, and reduced traffic volume. In addition, surfacing alternatives were tested as a creative alternative to traditional gravel and paving methods.

**J. Guanella Pass offers a place to get away from the crowds of the city or stress of everyday life and escape to the beauty of nature – improvements would impact this experience**

Alternative 6 accommodates current uses of the corridor, and will better preserve the existing beauty and character of the road by providing a more environmentally and aesthetically sensitive alternative. In addition, proposed improvements are in compliance with the FS Visual Quality Objectives.

Proposed improvements under Alternative 6 such as the revegetation of unstable slopes and alternative surface types will serve to enhance the visual character of Guanella Pass. For further information see **Sections III.B.1b and III.B.3**.

**Category 4: Purpose of the Project**

This category of comments addresses conflicts with the purpose of the project. Many comments expressed that the purpose does not reflect the voice of the majority. The subcategories concerning the purpose of the project are as follows:

**A. The local community does not want major improvements - Georgetown residents should have a large input, in particular**

The Town of Georgetown, through Town officials and public meetings, has been involved in the development of this project since its inception.

FHWA recognizes that the majority of commenters do not wish to have major improvements made to Guanella Pass. Based on public and agency comments on the DEIS build alternatives, Alternative 6 was created to provide improvements that involve more rehabilitation of the road and less reconstruction. Improvements under Alternative 6 were developed to create less of an impact on the visual and natural setting, as well as the local communities. For further information see **Section I.B.1**.

**B. The public was not informed of the project until too late in the process**

The development of the 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 1990. Through those meetings the two counties requested that the Guanella Pass Road receive consideration for improvements under the Forest Highway Program.

The FHWA Reconnaissance and Scoping Report was completed in 1993. After the report was prepared and reviewed with other government agencies, public scoping meetings regarding the proposed project were held in early 1994 prior to the development of any preliminary design for the road. The fact that FHWA developed a new alternative, Alternative 6, in response to public comments demonstrates that public comment received during the DEIS comment period was not "too late". For further information see **Section I.B.1 and Chapter III**.

**C. The alternatives suggested in the DEIS go beyond the original intention of simply improving Guanella Pass**

Due to the severely degraded nature of the road, any improvement intended to last for a lengthy period of time may seem excessive. Existing and projected use and the poor condition of the road do not permit FHWA engineers, in good conscience, to propose anything less than Alternative 6. Alternative 6 was developed to reduce the amount of paving and reconstruction from that which was proposed for the DEIS alternatives. Alternative 6 is intended to be more responsive than the DEIS build alternatives to public concerns regarding the environmental setting and the rustic and rural character of the road. For further information see **Sections I.B.1 and I.C.**

**D. There is no economic link between Grant and Georgetown and the surrounding communities; therefore, no advantage of diverting Interstate 70 traffic to US 285 via Guanella Pass**

Alternative 6 recognizes that Guanella Pass is not meant to be a commercial link or through route between Interstate 70 and US 285. The primary purpose of Guanella Pass Road is, and will continue to be, to provide recreational access to the forests and access to the developments provided by the FS such as camping, picnicking, etc. Alternative 6 emphasizes this by giving the road a “rural road” classification. For further information see **Section I.C.1d.**

**E. The project appears to be financially motivated, i.e., developers and others who stand to gain monetarily**

The development of the 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 Clear Creek County requested that the Guanella Pass Road receive consideration for improvements under the Forest Highway Program.

The Program Agencies (FHWA, FS, and CDOT) chose Guanella Pass Road for federal funding because the route serves both the national forests and the State or Counties and has a great need for improvement. The very limited amount of privately owned land within the project corridor prevents any dramatic increase in development of the area. For further information see **Section I.B.1.**

**F. Public attitude has changed since the request for federal funds on Guanella Pass**

Public input was received and utilized during scoping and development of the DEIS. Public meetings were held after the release of the DEIS. Public comments received on the DEIS identified a need to develop a new alternative. Alternative 6 was developed to provide an alternative that is more responsive than the DEIS build alternatives to the current public attitude regarding the project. For further information see **Section I.B.**

**Category 5: Safety**

This category describes commentaries relative to safety issues regarding the proposed reconstruction. The subcategories describe the safety problems anticipated from any major



improvements to the roadway. The following are the subcategories relating to the increase in safety issues caused by reconstruction:

**A. More accidents occur on a paved roadway**

Accident rates on Guanella Pass Road are notably higher than the accident rates on similar hard-surface recreational roads. Many safety deficiencies on the existing roadway create a high accident potential. The hazards created by these safety deficiencies will become an increasing problem on the existing road as traffic volumes increase over time. With a paved road, although traffic will be traveling at slightly increased speeds in a more open corridor, improved road surface and geometry will offset this hazard potential and increased stopping sight distance and better vehicle handling will result. For further information see **Section I.C.1c**.

**B. Major improvements result in increased crime, litter, road kill, rock slides, speeds, chemical spills, and non-point source pollution to the watershed**

*Crime*

Due to the wide variety of factors affecting crime rates, there is no way to predict whether there would be an increased level of crime resulting from the roadway improvement project. Information is not available on this subject as the connection between roadway improvements and increased crime has not been determined.

*Wildlife*

The magnitude of potential adverse impacts of an improved road on fish and wildlife in the affected area will be dependent upon the changes in the traffic volume and speed of vehicles that travel the road in comparison to current conditions. Long-term increases in vehicle-wildlife accidents are anticipated under all of the alternatives as a direct result of increased traffic volumes above current conditions. Road kill may result in local decrease wildlife abundance. Potential adverse effects of the build alternative on wildlife would be greatest under Alternatives 2 and 3, somewhat reduced in magnitude under Alternatives 4 and 5, and of lowest magnitude under Alternative 6. For further information see **Section III.B.5**.

*Rock slides*

Alternative 6 provides improved rockfall protection over the existing rockfall ditches and reduction of roadside hazards. It also has the least amount of full reconstruction of all build alternatives, minimizing the potential for affecting unstable materials. For further information see **Section I.C.2b**.

*Speeds*

The design speed under Alternative 6 is 20 to 30 mph. This is 5 to 10 mph less than the 25 to 40 mph design speed for Alternatives 2-5. This reduction in design speed allows a curvilinear alignment that more closely follows the existing roadway. This sharp curvature in combination with a narrower roadway width discourages vehicles from speeding on the road. For further information see **Section II.D.4b**.

### *Chemical spills*

Alternative 6 proposes a shorter vehicle length than Alternatives 2-5 (17 feet vs. 20 feet), allowing a road design that more closely follows the existing roadway. The shorter design vehicle would limit increased use by oversize vehicles (especially commercial vehicles and large trucks) from using this roadway as a system linkage between I-70 and US 285. Trucks that would typically be used for hauling loads such as chemicals would exceed this length. For further information see **Section II.D.4c**.

### *Non-point source pollution*

Guanella Pass Road is currently a non-point source of pollution to the surrounding water sources. The proposed improvements under Alternative 6 will lessen the existing impact of the roadway to water quality in the area.

In regard to construction activities, the contractor will be required to comply with all local, state, and national water quality standards and regulations for construction activities. NPDES permits and certification must be acquired from the state prior to construction. Pullouts, camping, picnicking, and recreational areas designated by the FS will discourage public use in undesired and/or sensitive areas, reducing impacts such as litter and other forms of pollution to these sensitive areas. For further information see **Sections III.B.2, III.B.6a, and IV.I.3**.

## **C. Disregard for pedestrians increases with an improved roadway**

The proposed improvements for Alternative 6 include a two-foot wide shoulder. In addition, some of the most dangerous existing tight curves are reconstructed with more gradual curves, reducing the number of blind spots and improving sight distances. Although traffic will be traveling at slightly increased speeds in a more open corridor, this hazard potential will be offset by roadside safety improvements such as, increased stopping sight distance, and better vehicle handling because of the improved road surface and geometry. FHWA had considered implementing a wider shoulder and separate foot/bike path. However, these options were eliminated due to the increase in impacts the construction of these facilities would have on the environment. For further information see **Section III.B.4c**.

## **D. Improvements will increase speeds resulting in less safety**

The design speed under Alternative 6 is 30 to 50 km/h (20 to 30 mph). This is at least 10 km/h (6 mph) less than the 40 to 60 km/h (25 to 40 mph) design speed for Alternatives 2-5. The change in design speed allows a curvilinear alignment that more closely follows the existing roadway. This sharp curvature in combination with a narrow roadway width makes it difficult for vehicles to achieve high speed on the road. Also, improvements such as the addition of guardrails and a consistent roadway width provide less chance for a vehicle to roll over the edge of the roadway where steep drop-offs occur. For further information see **Section II.D.4b**.

## **E. Improvements give a false sense of security**

Alternative 6 improves the safety of the roadway by providing increased rockfall protection, consistent geometry, increased sight distances, increased guardrail, and vehicle pullouts.

In addition to the improved safety of the roadway, the low design speed and curvilinear alignment of the road will discourage vehicles from traveling at excessive speeds. For further information see **Section III.E.2.**

#### **F. Negative effect on emergency services**

Under Alternative 1 (No-Action), calls for emergency services could reasonably be expected to increase proportionally to the amount of increased traffic. Given this assumption, the emergency service calls could be expected to increase by 56 percent. Alternative 6 will have the least impact of the build alternatives, increasing the number of calls an additional 20 percent over the Alternative 1. For further information see **Section III.C.10.**

#### **Category 6: Inconsistencies in the DEIS**

This category addresses inconsistencies in the DEIS identified by commentaries. These are issues that the commentaries argue do not make sense within the DEIS, or they have other information to prove otherwise. The subcategories addressing inconsistencies in the DEIS are as follows:

##### **A. Accident numbers, costs, and/or lane widths are found to be inaccurate, inconsistent, or incomplete**

Accident numbers are those reported on Guanella Pass Road and were obtained from public records.

Construction costs are reported as conceptual comparison costs. These costs are based on preliminary design and may change during final design. These costs should be used for comparison purposes only. Future maintenance costs assume that the proposed road surfaces are maintained to a level consistent with standard recommended practices, preferred surface conditions, and projected traffic volumes. As with any costs that have been developed for the purposes of this document, the maintenance costs are intended to give a relative comparison between alternatives and are not intended for county or city budget planning. The maintenance costs are developed with assumptions that may or may not be an accurate representation of actual maintenance activities.

Information on lane widths was obtained by review of public records and through interviews with agencies responsible for maintenance. For further information see **Section I.C.1c, III.B.6b, and III.C.11.**

##### **B. The purpose of the project – Some commentaries believe the stated purpose of the project would have the opposite result after reconstruction. These purposes include increased safety, correction of environmental problems, and avoiding the creation of a connecting highway between Interstate 70 and US 285.**

Alternative 6 was developed to address concerns that Alternatives 2-5 would worsen some of the problems that they were intended to address, such as those mentioned above. Alternative 6 addresses some of these concerns by a change in the functional classification of the roadway from a rural collector road 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 originally proposed in the DEIS. Each of these changes in the design criteria permits Alternative 6 to follow more closely the existing roadway. These changes discourage excessive speeds (a safety concern), environmental problems (less disruption to the environment occurs because of the narrower

roadway width), and the creation of a connecting highway (commercial and/or large vehicles would be discouraged from using the road). For further information see **Section II.B.6**.

**C. The DEIS states that a Preferred Alternative has not been identified but seems to imply a preference through suggestive descriptions and displays**

The Preferred Alternative was not identified in the DEIS. Any implication of a preference for a particular alternative was unintentional, as the Preferred Alternative was developed after public comments were received on both the DEIS and the SDEIS.

**D. The state of the existing road differs between local opinion vs. DEIS opinion**

Professional Engineers in the State of Colorado assessed the state of the existing road. The substandard roadway surface conditions were determined in relation to the current and projected traffic volumes on the road. The existing roadway surface is not strong enough to carry current traffic volume loads, and further deterioration will occur if the roadway is not improved. For further information see **Section II.B.1**.

**E. Traffic numbers – Some commentaries expressed that the traffic counts taken were inaccurate or were taken using improper methods**

The traffic volume information presented in the DEIS, the SDEIS, and the FEIS are based on traffic studies completed between August of 1994 and August of 1995. A detailed analysis of traffic volume information is provided in *Guanella Pass Road Traffic Study, Technical Memorandum, Traffic Volume Projections* (MK Centennial, September 29, 2001).. The information-gathering methods presented in this technical memorandum as well as in the SDEIS are based on accepted engineering techniques and standards.

**F. Coordination efforts**

**1) FHWA has stated that they have had several interactions with local and state agencies, but this is not the case**

The development of the 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.

Although federal funds are used for the projects, the maintenance and control of the roads and the joint approval of the project details remain with the State or local entity having jurisdiction – in this case Clear Creek County, Park County, and the Town of Georgetown. The Town of Georgetown has been involved in the development of this project since its inception. All coordination events are listed in Chapter VII. For further information see **Section I.B.1 and Chapter VII**.

## **2) FHWA should be more receptive of public opinion**

Alternative 6 was developed based on public comments received on the DEIS. The 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. These work group sessions were held from early February through early May 2000 and were open to the public for observation. For further information see **Sections I.B.1-4.**

### **G. This subcategory is for a general comment made concerning inconsistencies in the DEIS that does not fall under a more specific category**

This comment has been noted and will be considered as part of the official documentation for this project.

### **Category 7: Sierra Club**

This category describes comments made that stress the need for repair or maintenance for the road, but not to the extent proposed by the build alternatives. These commentaries expressed that Alternatives 2-5 are above and beyond what the roadway needs, but that “No-Action” will not solve the problems that exist. The comments made may range from a suggestion for rehabilitation to no pavement beyond Geneva Park. These commentaries are in favor of the Sierra Club Alternative and the subcategories are as follows:

#### **A. The Sierra Club Alternative should be fully analyzed, considered, and pursued**

The Sierra Club Alternative was initially considered and then eliminated from detailed analysis. The Sierra Club Alternative may appear to be adequate for current traffic, but it does not provide for the increases in traffic expected in 20 years. It is not considered a wise investment of public funds to expend limited resources on improvements that soon will become inadequate or inappropriate. The most hazardous conditions are left unaddressed and may leave the Counties, the FS, and the FHWA with a facility having many operational, maintenance, and safety liabilities.

Many of the environmental enhancements recommended as part of this alternative are included in Alternative 6. Alternative 6 provides the closest solution to the Sierra Club Alternative concerns while addressing much needed operational, maintenance, and safety concerns. If FHWA were obligated to select between the Sierra Club Alternative and the No-Action Alternative (Alternative 1), FHWA’s stewardship responsibilities would require it to select Alternative 1. These responsibilities are described in the Code of Federal Regulation (CFR) at 23 CFR Part 625.2 which states that “Plans and specifications . . . shall 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 . . .” For further information see **Section II.F.8.**

#### **B. FHWA guidelines for reconstruction should be adapted to maintain the rustic nature of the roadway**

After the release of the DEIS, many commentaries on the document expressed concern over the level of reconstruction proposed in the build alternatives, including widening the roadway,

increasing the design speed, and realignment of sharp curves. The FHWA responded by creating Alternative 6, which changes the functional classification of the roadway to a rural local road. This classification is consistent with a lower design speed with sharper roadway curves, a narrower roadway width, and a smaller design vehicle than the DEIS build alternatives.

Alternative 6 is a compromise between the environmental and aesthetic concerns, while reducing maintenance for counties and improving the safety for the traveling public to an acceptable level. For further information see **Section I.B.4**.

**C. The FHWA manual has 2 categories that can be applied to a road for maintenance: Rehabilitation and Reconstruction – rehabilitation has not been considered**

Rehabilitation of the road was considered but eliminated because it leaves the most hazardous conditions unaddressed and could leave the counties and FHWA with a facility having many operational, maintenance and safety liabilities. If FHWA were forced to select between a rehabilitation alternative and Alternative 1, FHWA’s stewardship responsibilities would require it to select Alternative 1. “Plans and specifications . . . shall 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 . . .”

Alternative 6 was developed in response to comments received on the DEIS. Many commentaries disagree with the extent of reconstruction proposed for the build alternatives. Alternative 6 includes much more rehabilitation (63 percent of the route) than the DEIS alternatives (49 percent under Alternative 5 and zero percent under the remaining DEIS alternatives). Also, the proposed amount of light and full reconstruction under Alternative 6 are substantially less than the DEIS build alternatives. For further information see **Section II.D.1-3**.

**D. The Sierra Club Alternative provides a sensible solution to preserve the beauty and rustic character of the area**

The Sierra Club Alternative for an inadequate level of improvement for the road because it does not allow for correction of the most hazardous conditions. The improvements provided for in the Sierra Club Alternative are also short-lived and would not be sufficient for the projected traffic volumes in 20 years. If the FHWA were obligated to select between the Sierra Club Alternative and Alternative 1, FHWA’s stewardship responsibilities would require it to select the Alternative 1. “Plans and specifications . . . shall 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 . . .”

Alternative 6 was created to more closely match the existing road, while providing adequate safety and maintenance improvements. The improvements would preserve the character of the area better than the DEIS build alternatives. For further information see **Section II.F.8**.

**E. If the Sierra Club proposal is eliminated, then prefer Alternative 1: No-Action**

This comment has been noted and will be considered as part of the official documentation for this project.

**F. The Build Alternatives create a roadway that is too wide, with too much cut slope, too many retaining walls, unnecessary shoulders, etc. – the Sierra Club Alternative stays within the current footprint**

The Sierra Club Alternative provides an inadequate level of improvement for the road because it does not allow correction of the most hazardous conditions. These improvements are also short-lived and would not be sufficient for the projected traffic volumes in 20 years. Because of this, the alternative was eliminated from consideration. If the FHWA were forced to select between the Sierra Club Alternative and the Alternative 1, FHWA's stewardship responsibilities would require it to select the Alternative 1. These responsibilities are described in the Code of Federal Regulation (CFR) at 23 CFR Part 625.2 which states that "Plans and specifications . . . shall 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 . . ."

Alternative 6 was developed to more closely match the existing alignment of the roadway than the DEIS build alternatives. Alternative 6 changes the functional classification of the roadway to a rural local road. This classification is consistent with a lower design speed with sharper roadway curves, a narrower roadway width, and a smaller design vehicle than the DEIS build alternatives. For further information see **Section II.F.8**.

**G. Don't want road reconstructed, just stabilized as in the Sierra Club Alternative**

The Sierra Club Alternative provides an inadequate level of improvement for the road because it does not allow correction the most hazardous conditions. These improvements are also temporary and would not be sufficient for the projected traffic volumes in 20 years. If the FHWA were forced to select between the Sierra Club Alternative and Alternative 1, FHWA's stewardship responsibilities would require it to select Alternative 1. These responsibilities are described in the Code of Federal Regulation (CFR) at 23 CFR Part 625.2 which states that "Plans and specifications . . . shall 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 . . ."

Alternative 6 was created to more closely match the existing road, while providing adequate safety and maintenance improvements. The improvements would preserve the beauty and fit in with the character of the area better than the DEIS build alternatives. For further information see **Section II.F.8**.

**Category 8: Alternative 1 - No Action**

This category includes comments made in favor of leaving the roadway as it is. These commentaries expressed opposition to all of the build alternatives in the DEIS. Many of the commentaries indicated that their choice of Alternative 1 was based on not having a minimal improvement alternative to choose. If a minimal improvement alternative were available, then the minimal improvement alternative would be their choice. The subcategories listed in favor Alternative 1 are:

**A. If reconstructed, unspoiled wilderness areas are more difficult to access**

This is correct. One of the goals of the FS is to limit access to sensitive wilderness areas. Proposed improvements would limit access through the use of designated pullouts, guardrail, and other barriers.

**B. Existing road serves its purpose for the area it transverses**

FHWA, the FS and the maintaining agencies do not agree. The present poor condition of the road illustrates its inability to adequately accommodate existing use. Part of the need for the proposed improvements to the road is to both accommodate and control access to the recreational facilities the FS manages. Improvements to the roadway provide an opportunity for the FS to better manage the locations used for parking; control off-road camping, parking, and travel in areas where it is not desired; and install interpretive pullouts and signs. The primary purpose of the road is, and will continue to be, to provide safe recreational access to the national forests and access to the facilities mentioned above. For further information see **Section I.C.1d**.

**C. Roads like Guanella Pass are an adventure and limit traffic by their nature**

See response to subcategory B, above.

**D. Negative impacts outweigh any advantages of improvements**

Based on the Purpose and Need of the project described in Chapter I, the need for improvements to the roadway is substantial, whereas many of the negative impacts can be mitigated or minimized by careful planning. Transportation needs, environmental needs, and maintenance needs for the roadway are all greater than the impacts that may result from improvements under Alternative 6. The benefits of improvements to the road will outweigh the negative impacts of the project. Negative impacts have been substantially mitigated/reduced from those identified for the DEIS build alternatives. For further information see **Section I.C**.

**E. Against improving and/or widening**

This comment has been noted and will be considered as part of the official documentation for this project.

**F. The area can't handle impacts associated with increased use, such as increased amounts of traffic, equipment, costs for maintenance, and the need for increased emergency services**

Under alternative 1 (No-Action), projected increases in use are 56 percent over existing use. Failure to perform improvements to the road will make it even more difficult to manage this increase in use. The FS supports improvements of Guanella Pass Road as a means to help preserve the Scenic Byway. Visitor use of the Guanella Pass area continues to increase, making it increasingly difficult for the FS to manage. The FS feels that the proposed improvements will aid in their ability to manage the area by restricting the use of sensitive areas by recreationalists.



Alternative 6 results in the least amount of traffic of all build alternatives, and though it increases speed it also increases roadway safety. Construction activities and equipment hauling will be performed so as to minimize impacts to the area. (Maintenance costs are lower for all build alternatives than for Alternative 1.)

#### *Traffic*

Under Alternative 1, traffic volumes are projected to increase approximately 56 percent over the 1995 values by the year 2025. The improvements to the roadway under Alternative 6 increase traffic volumes over Alternative 1 levels by 20 percent at the summit. Because of the sharp curvature, narrow roadway width, and low speed limits, traffic volumes are not expected to increase as much under Alternative 6 compared to the DEIS build alternatives, which increase traffic volumes 35-80 percent over Alternative 1 volumes at the summit. Management of the roadway and enforcement of speed, weight, and vehicle limits would be the responsibility of local agencies. For further information see **Section III.B.1b**.

#### *Equipment*

Some construction impacts are anticipated under any of the build alternatives during construction activities. However, mitigation measures will be implemented during construction activities such as scheduling during off-peak periods, when possible; use of construction haul routes that minimize local impacts; and the use of approved portions of the right-of-way for storing material and placing equipment. For further information see **Section III.B.6**.

#### *Costs for maintenance*

The improved surface makes maintenance less resource intensive, easier, and less expensive. Winter closure of the road would also reduce maintenance costs associated with plowing the road (note: the winter closure issue will be decided by local agencies). For further information see **Section III.C.11**.

#### *Emergency services*

Calls for emergency services could reasonably be expected to increase proportionally to the amount of increased traffic. Given this assumption, the emergency service calls for Alternative 1 could be expected to increase by 56 percent over 1995 values by the year 2025. Alternative 6 will have the least impact of the build alternatives, increasing the number of calls an additional 20 percent over the Alternative 1. It should be noted that despite the increases in speed, the increased site and stopping distances and improved road geometry proposed under all build alternatives may reduce accidents, thereby reducing the need for emergency services. For further information see **Section III.C.10**.

### **G. Guanella Pass should remain a rustic/scenic roadway**

Alternative 6 more closely matches the existing road, while providing adequate safety and maintenance improvements. The improvements would preserve the beauty and fit in with the character of the area better than the DEIS build alternatives. For further information see **Sections I.B.4 and II.B.6 and III.B.3**.

## **Category 9: Overall Cost**

This category addresses the objections to reconstruction because of the overall costs that would be incurred. The costs identified range from costs to the counties for maintenance to the costs of right-of-way acquisition. The concerns of the overall costs resulting from major improvements are as follows:

### **A. The difference in costs between paving, not paving, and minor improvements is substantial**

The construction cost for Alternative 6 is less than Alternatives 2-5. Projected costs for Alternative 6 are \$28.9 million as compared to \$29.2, \$35.9, \$44.6 and \$46.1 million for Alternatives 4, 5, 3, and 2 respectively. Alternative 6 includes a much greater amount of rehabilitation Alternatives 2-5. Rehabilitation is less expensive than full reconstruction.

In regard to minor improvements, it is not considered a wise investment of resources to perform spot road improvements (e.g. further reduce the proposed width, resurface the road without widening narrow sections, or not correct the most deficient alignment and geometric inconsistencies) that soon will become inadequate or inappropriate. The most hazardous conditions would be left unaddressed and may leave the Counties, FS and the FHWA with a facility having many operational, maintenance, and safety liabilities. For further information see **Sections III.B.6b and III.C.11**.

### **B. Park and Clear Creek Counties and the taxpayers will end up paying for long-term maintenance, increased patrols, and litter pick-up**

#### *Long-term maintenance*

The cost of maintenance of the road for 20 years after construction of Alternative 6 is 64 percent of the cost of maintenance under the Alternative 1 assuming that the road surfaces are maintained to a level consistent with standard recommended practices, preferred surface conditions, and projected traffic volumes. In essence, maintenance of Alternative 6 is less costly than trying to maintain the status quo. The project allows the Counties to get more for their maintenance dollar than what they are getting now.

Winter closure (to be decided by the land management agencies) will also reduce the maintenance costs associated with plowing the road. Winter closure helps preserve the surface structure by reducing the exposure of the surface to freeze-thaw cycles that result when the road is cleared of snow. The snow acts as insulation to the road that protects it from the temperature extremes that occur between the winter days and nights. For further information see **Section III.C.11**.

#### *Increased patrols*

Based on the number of current emergency response calls and the projected traffic volumes, it is expected that the emergency services will see an increase in calls and requests for assistance. It is not clear, however, how much of an increase can be expected. A reasonable assumption would be that the increase in calls is proportional to the amount of increased traffic. Given this assumption, Alternative 6 will have the least impact of the build alternatives and increase the number of calls an additional 20 percent over Alternative 1. For further information see **Section III.C.10**.

### *Litter*

Additional traffic, which is expected under all alternatives including the Alternative 1, means more tourists and visitors in Georgetown and other portions of the study area. While this translates to additional income for the tourist-dependent business, it could also result in increased congestion, littering, and impacts on the natural environment. This could lead to additional demand for community services such as trash removal. However, increased and better management of these areas could address these issues. In addition, an increase in people to the area also translates into an increase in taxable sales, which would help to offset the additional costs for community services. For further information see **Section III.C.10**.

### **C. Spend this money on other projects, such as: US 285 (most frequently mentioned), Interstate 70, Hwy 9 to Breckenridge, Bear Creek, or a skyway from Denver to Vail**

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. Federal funding (Forest Highway Funds) is allocated for the Forest Highway Program, specifically, as other federal funding would be allocated for the types of projects mentioned above. Interstate 70, US 285, and Highway 9 are not Forest Highways and therefore are not eligible for this funding. For further information see **Section I.B.1**.

### **D. Costs to Clear Creek and Park Counties due to damages brought forward by local businesses (Example: Tumbling River Ranch)**

Comment noted. These types of costs cannot be estimated.

### **E. Counties are currently unable to keep up with maintenance costs of paved portions on Guanella Pass Road; therefore, they would not be able to maintain the costs of the road if fully paved**

As traffic volumes increase over time, and the roadway continues to age, the need for increased maintenance will continue. However, lack of monetary resources will result in accelerated deterioration of the road. Lack of maintenance will contribute to environmental degradation of the area through dust, erosion, and sedimentation.

Objective number four of the Project Objectives (see **Section I.D**) is to reduce anticipated maintenance costs of Guanella Pass Road. Alternative 6 reduces maintenance costs as compared to the other alternatives, including the Alternative 1. Under Alternative 6, 20-year maintenance costs would be 64 percent of the Alternative 1 maintenance cost due to the longer life expectancy of the improved roadway. For further information see **Sections I.C.3, I.D and III.C.11**.

## **F. Paving and widening is an overly expensive alternative**

Alternative 6 reduces the amount of paving and allows a narrower roadway cross-section than Alternatives 2-5. The construction cost for Alternative 6 is less Alternatives 2-5. Projected costs for Alternative 6 are \$28.9 million as compared to \$29.2, \$35.9, \$44.6 and \$46.1 million for Alternatives 4, 5, 3, and 2 respectively.

Additionally, maintenance costs under Alternative 6 would be 64 percent of Alternative 1 over a 20-year period. For further information see **Section III.B.6b**.

## **G. Costs to counties for right-of-way acquisition from local landowners and businesses**

The right-of-way necessary for Alternative 6 along the road corridor is expected to be less than any of Alternatives 2-5. Alternative 6 calls for a decreased amount of full reconstruction, reduced roadway width, and lower design speed, all of which result in a closer match to the existing roadway and associated right-of-way. See reference section for information on the amount of right-of-way that needs to be acquired by each county. For further information see **Section III.C.5**.

### **Category 10: Benefits of Improving Guanella Pass Road**

This category summarizes commentaries indicating there are benefits to making major improvements to Guanella Pass Road. The subcategories of the benefits of improving Guanella Pass Road are as follows:

#### **A. Reconstruction will save Guanella Pass from dust and runoff impacts; as well as reduce maintenance costs; increase safety; and decrease unauthorized camping, parking, and social trails**

The Alternative 2-5 were developed to address roadway safety and operational issues and the overall condition of the road.

#### **B. Improvements will ensure future maintainability for the roadway**

Improvements will facilitate future maintainability, as future maintenance costs under the DEIS build alternatives and Alternative 6 are projected to be less than under the Alternative 1. For further information see **Section III.C.11**.

#### **C. Positive economic impacts**

Traffic volumes on Guanella Pass Road are projected to increase after completion of construction under all of the build alternatives, which, in turn, creates increased sales for local businesses. Under Alternative 6, however, traffic volumes are not expected to increase as much as they would under Alternatives 2-5. Therefore, economic benefits would not be as great under Alternative 6. For further information see **Section III.B.1d**.

### **Category 11: Use the Federal Money for Major Improvements to Guanella Pass Road**

This category addresses comments in favor of utilizing the money that the Federal Government is offering and making the proposed improvements to Guanella Pass Road. Commentaries indicate

that the improvements are necessary for the future existence of the road. The subcategories for the commentaries in favor of using the Federal money for major improvements to Guanella Pass Road are as follows:

**A. Park and Clear Creek Counties have limited resources to rehabilitate the road**

For this reason, the Counties appealed to the Forest Highway Program to fund the improvements to the road. However, the Counties would still be responsible for future maintenance costs for the road.

**B. Paving the road would be beneficial to correct the current problems**

While paving is an option for an improved roadway, using a hardened surface or other alternative surface types are also proposed in specific locations to correct identified problems. For further information see **Section II.B.6a**.

**C. The road could become inaccessible due to dangerous driving conditions – the road is in need of improvements for future maintainability**

Based on the project objectives, Alternatives 2-5 were developed to address roadway safety issues and the overall condition of the road.

**Category 12: Minimal Improvements**

This category describes comments that stress the need for repair or maintenance for the road, but not to the extent proposed by the Build Alternatives. Commentaries expressed that Alternatives 2-5 are above and beyond what the roadway needs, but that “No-Action” will not solve the problems that exist. Comments range from a suggestion for rehabilitation to no pavement beyond Geneva Park. Comments are in favor of minimal improvements and the subcategories are as follows:

**A. In favor of minimal repairs**

To fulfill the project objectives identified for this project such as safety, drainage, and slope stability, full reconstruction is necessary for certain areas of the roadway. Alternative 6 was developed to provide a greater amount of rehabilitation of the roadway, with full reconstruction proposed only for areas with substantial safety and/or maintenance concerns.

Minimal repairs would not address the most deficient alignment and geometric inconsistencies. The most hazardous conditions would be left unaddressed and may leave the Counties, FS, and the FHWA with a facility having many operational, maintenance, and safety liabilities. For further information see **Sections I.C and II.F.8**.

**B. Major maintenance would be too costly**

As traffic volumes increase over time, and the roadway continues to age, maintenance needs increase. An improved roadway, however, requires less resources and money to maintain. The greater longevity of the improved roadway would also keep maintenance costs down over time. For further information see **Section III.C.11**.

**C. Minor repairs should be supported by federal funds through county maintenance activities**

Minor repairs are not supported by the project objectives, as stated in **Chapter I: Purpose and Need**. In addition, the Federal funding available for this project is limited for a specific category of construction projects and cannot be used to fund maintenance activities. For further information see **Section II.F.5**.

**D. Perform modest improvements including one or more of the following: safety, drainage, sedimentation, and/or recreational use improvements**

After the release of the DEIS, many commentaries agreed with the need for repair or maintenance of the road, but not to the extent described by Alternatives 2-5 included in the DEIS. Alternative 6 was developed to provide more modest improvements to the roadway including the needed safety, drainage, sedimentation, and/or recreational use improvements. For further information see **Sections I.B.1 and I.C**.

**E. No widening beyond what exists now, i.e., do not widen to FHWA standards**

While the DEIS build alternatives proposed a widening of the roadway to 24 feet, Alternative 6 provides for a roadway width of 22 feet, based on the rural local road functional classification. The existing roadway width varies between 18 and 24 feet. To meet minimum AASHTO design guidelines, the roadway needs to be widened by up to four feet in some areas. For further information see **Section II.D.4**.

**F. Do not pave on the Park County side of Guanella Pass/beyond Geneva Park**

A justification for the types of improvements proposed for each of the segments in Alternative 6 is provided in **Appendix C: Rationale for the Design Criteria and the Proposed Improvements**. The reasons for proposed reconstruction and paving in certain areas beyond Geneva Park (particularly Shelf Road) are the substantial safety concerns (such as steep cut slopes and heavy rockfall) and deficient roadway conditions (such as poor drainage).

**G. Provide regular maintenance**

In the past, Park and Clear Creek Counties expended a great proportion of their available resources and money trying to maintain Guanella Pass Road. Even with their efforts, the level of maintenance has been inadequate. The counties agree that additional maintenance of the roadway is desirable, but budget restrictions and the large amount of work required have prohibited this.

Under Alternative 6, the improved roadway would require less resources and money to maintain. The roadway would be easier to maintain for a longer period of time. Better maintenance results in a safer road, an enhanced recreational driving experience, and less dust, erosion, and sedimentation. For further information see **Section I.C.3**.

## **H. Improve, but do not pave or change the footprint of the roadway**

Alternative 6 was developed to make needed improvements to the roadway such as safety and maintenance, while more closely matching the existing width and alignment. Alternative 6 also provides for the use of alternative surface types instead of pavement or gravel surfaces. The alternative surface types would provide a hardened surface while retaining a rustic look and feel. For further information see **Sections I.B.1 and II.B.6.**

## **I. Pursue rehabilitation**

Alternative 6 was developed to provide a greater amount of rehabilitation of the roadway, with full reconstruction proposed only for areas with substantial safety and/or maintenance concerns. Alternative 6 proposes 63 percent of the roadway for rehabilitation, 18 percent for light reconstruction, and 19 percent for full reconstruction. The DEIS build alternatives proposed full reconstruction for the entire length of the road with the exception of Alternative 4 (49 percent no action) and Alternative 5 (49 percent rehabilitation). For further information see **Section II.D.1-3.**

### **Category 13: Issues with the Guanella Pass Public Hearings**

This category addresses comments concerning issues with the Guanella Pass Road public hearings that took place. The following comments were made concerning the public hearings:

#### **A. Not a true public hearing because it did not facilitate discussion**

Public hearings were held on August 3, 4, and 5, 1999 to receive public input on the DEIS. At these hearings, a court recorder took public comments and written comments were also received. In the interest of providing the most productive forum for these hearings, FHWA employees and other representatives knowledgeable about the project were present to encourage one-on-one discussions with the public to answer questions and facilitate discussion.

Based on public sentiment that the public hearings did not facilitate discussion, additional public hearings were held by the Counties to provide for a format that would facilitate discussion. The additional public hearings were held in Clear Creek County on August 20, 1999 and in Park County on August 25, 1999. For further information see **Section I.B.2-4.**

#### **B. The open house format limited debate – interested in learning other people’s thoughts about the pros and cons of the project**

Based on public sentiment that the initial public hearings did not facilitate discussion, additional public hearings were held by the Counties to provide for a format that would facilitate discussion. The additional public hearings were held in Clear Creek County on August 20, 1999 and in Park County on August 25, 1999.

All comments received on the EIS process for Guanella Pass Road are a matter of public record and have been made available for public review. Also, all comments received have been considered and used for the development of Alternative 6. For further information see **Section I.B.2-4.**

#### **Category 14: Recreational safety considerations**

This category addresses comments made about the need for consideration of recreational safety in any plans for improvement. Bicycling enthusiasts made many of these comments, but other types of recreationalists, such as hikers and horseback riders made some. The subcategories for recreational safety considerations are as follows:

##### **A. Need to improve hiking/biking trails and provide a shoulder wide enough to accommodate bicyclists**

The proposed improvements under Alternative 6 include a shoulder two feet wide. In addition, some of the existing tight curves are reconstructed with more gradual curves, reducing the number of blind spots and improving sight distances. Adding width to the roadway to accommodate pedestrians and bicycles was eliminated from consideration because of the additional environmental impacts that would occur. Motor vehicles, pedestrians and bicyclists will have to share the road. For further information see **Section II.F.4**.

##### **B. Put in emergency phones for recreationalists**

Emergency phones along Guanella Pass Road are addressed in the Corridor Management Strategy (CMS) developed by the FS and Scenic Byway Committee. Recommendations made in the CMS concerning emergency phones include an emergency phone system that is accessible year round at Guanella Pass Campground and emergency phones at one of the summit parking lots and at Burning Bear Campground. The emergency phone system is not within the scope of this project.

##### **C. Include American Discovery Trail on Guanella Pass Road**

The American Discovery Trail corridor (in the planning stage) will cross near Guanella Pass. This trail corridor will connect California and Maryland. To date, there are no plans to dedicate a specific trail on Guanella Pass Road.

#### **Category 15: Negative impacts on local economies**

This category addresses concerns about the negative impacts that major improvements would have on the local economy. The commentaries stated different reasons for negative impacts ranging from the bypassing of Georgetown to construction that would take place within and outside of Georgetown. The subcategories related to negative effects on the local economy due to major improvements are as follows:

##### **A. Bypassing Georgetown adversely affects business owners by taking away business**

None of the bypass options for the Town of Georgetown presented in the DEIS were considered desirable. All were dropped from further consideration. For further information see **Sections II.F.6 and II.F.9**.



**B. Impacts within Georgetown – the additional traffic through Georgetown creates more business, employees are difficult to find, inadequate parking, and congestion**

Alternative 6 was developed to reduce project impacts such as, increased traffic, to the surrounding areas. Traffic volume increases under Alternative 6 are projected to increase an additional 20 percent over the year 2025 Alternative 1 volumes.

Traffic increases may increase the demand for parking and create seasonal parking problems during the high-visitor months of June through September. Currently, the downtown business district provides sufficient parking. Overflow peak parking is required three times during the year: 4<sup>th</sup> of July, aspen viewing season, and Christmas Market. During these special events, buses are used to transport visitors to and from off-site parking locations.

The Georgetown Planning Commission is concerned with current traffic flow problems at certain locations within the downtown area. Numerous bypass routes were evaluated to address their concerns to divert through traffic around downtown Georgetown. However, none were considered desirable and they were dropped from consideration. The Town will address parking issues and congestion that might result from traffic volume increases. For further information see **Sections III.B.1b and 1.d.**

**C. Businesses (such as Tumbling River Ranch) will assert substantial monetary claims for compensation and damages**

The FHWA is making an effort to work with and minimize impacts to local businesses.

**D. Many local businesses contribute substantially to the economy (Tumbling River Ranch) – if these businesses fold due to construction, the impact would be significant to the economy**

Three case studies are provided in the FEIS for three communities that have experienced roadway construction projects similar to the proposed improvements to Guanella Pass Road. Based on the three economic case studies, construction activities did not conclusively have a substantial negative impact on any of the three towns studied.

In addition, a survey of 14 members of the Colorado Association of Dude and Guest Ranches was conducted to help assess the potential impact that improvements to Guanella Pass Road will have on the dude ranch located along the road. Three of the ranches surveyed currently have road construction on the road to their ranch. None of the three have experienced any negative impacts, mainly due to the fact that the guests make their reservations well in advance. For further information see **Sections III.B.1d, III.B.6h, and III.B.6i.**

**Category 16: Construction Impacts**

This category addresses concerns about the actual construction impacts that might occur from a seven to ten year construction period. These impacts are to occur under each of the build alternatives over the entire time, length, and geographic area of the construction. The subcategories related to the construction impacts resulting from major improvements to Guanella Pass are as follows:

**A. Wildlife would be negatively impacted by the noise, trucks, and habitat disturbance**

Several mitigation measures will be taken to reduce construction impacts to wildlife. For a complete list of construction mitigation measures for wildlife, see the reference sections provided. For further information see **Sections IV.G and IV.I.**

**B. The environment would be impacted due to construction runoff, noxious weed introduction, and the removal of native species**

*Construction runoff*

During construction, best management practices (BMP's) will be used as directed by the project engineer to reduce runoff velocity and extract sediment.

Despite the caution that will be taken during construction activities to avoid impacts to water quality, minimal impacts could occur. However, the short-term impacts that could result from construction activities are far outweighed by the long-term improvements to water quality that will result from the drainage improvements to the roadway. For further information see **Section IV.I.3.**

*Noxious weed introduction*

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 material and revegetation plant mixes will be weed-free. For further information see **Section IV.I.1.**

*Removal of native species*

Much of the right-of-way disturbance along the existing road was either untreated at the time of the original construction or seeded with introduced species. Once construction is complete, denuded slopes will be revegetated with native cover using modern revegetation materials and techniques. This constitutes a positive effect of the proposed actions. A comprehensive revegetation plan will be developed in coordination with the FS and the local weed control officer and implemented in disturbed areas. For further information see **Sections III.C.15 and IV.G.**

**C. The local economy would be affected because visitors will avoid the construction area**

Alternative 6 would require less hauling and construction activity than Alternatives 2-5 (consistent with a lesser amount of reconstruction and/or paving). Alternative 6 reduces the duration of a construction project by incorporating more rehabilitation and light reconstruction sections into the project.

While construction activities might affect the local economy temporarily during certain periods, measures will be taken to lessen impacts to the area (see reference section). Also, the case studies provided in the FEIS of similar construction projects show that negative economic impacts did not result from construction activities. For further information see **Sections III.B.6I and IV.I.1.**

**D. The local traffic will be congested due to construction delays as well as by the large trucks and equipment**

Alternative 6 is aimed at reducing the amount of construction traffic required for the project by incorporating on-site materials sources, on-site staging areas and constructing a haul route through Georgetown that will minimize impacts to traffic. Any construction activities will involve traffic delays. However, several measures would be taken to ensure that delays are minimized. For further information see **Sections III.B.6 and IV.I.2.**

**E. A time frame of seven to ten years is too long and will place undue stress on the area**

Under the DEIS build alternatives, the worst-case scenario projected that construction activities would take place over seven to ten years. Alternative 6 was developed in an effort to address the many concerns, including the impact that the construction seasons will have on the community. Under Alternative 6, the construction in Clear Creek County will be done in two phases and will require no more than three construction seasons for each phase. The construction period on the Park County side will also be done in two phases and will require two construction seasons for each phase. Construction staging has not yet been determined. The FHWA will plan phases of construction in coordination with the Counties and local communities. For further information see **Section III.B.6.**

**Categories 17-22**

Categories 17-22 Categories 17-22 all indicate a preference for a particular Alternative listed in the DEIS or the SDEIS. These preferences have been noted. The categories correspond to the Alternatives as follows:

**Category 17: DEIS Alternative #1**

**Category 18: DEIS Alternative #2**

**Category 19: DEIS Alternative #3**

**Category 20: DEIS Alternative #4**

**Category 21: DEIS Alternative #5**

**Category 22: DEIS Alternative #6**

# Responses to SDEIS COMMENTS

## **Category 23: SDEIS Issues Need To Be Elaborated**

This category addresses comments concerning issues in the SDEIS that were not thoroughly discussed. The subcategories for SDEIS issues that need to be elaborated are as follows:

### **A. Sedimentation issues**

Details on water quality standards, sediment transport, and runoff information are found in the *Hydrologic, Water Quality, Sediment Transport, and Bulk Atmospheric-Deposition Data, Guanella Pass Area, Colorado* (October 1, 1994, through September 30<sup>th</sup>, 1997, USGS).

The FS monitors areas along Guanella Pass Road (within their jurisdiction) for sedimentation concentrations. The current levels are not acceptable with FS standards and guidelines, and the rate at which sedimentation occurs is increasing. This is a cause of concern for the FS. Under Alternative 6, improvements such as improved drainage facilities, provision of sediment traps, hardened surface types, and revegetation of barren slopes are also part of the proposed improvements. For further information see **Section I.C.2b and III.B.2a**.

### **B. Impacts to Local Businesses**

A more detailed discussion on potential impacts to the local businesses along Guanella Pass Road area is included in the FEIS (see reference sections). Additional information includes a more detailed analysis of noise impacts on the area during construction activities and additional mitigation measures to be used during construction activities. Possible mitigation techniques to control noise include restricting noisy construction operations to specific times of the day and specific days of the year and requiring adequate mufflers on all equipment. For further information see **Sections III.B.6, III.B.1d, and IV.I**.

### **C. Number of construction trucks on road**

This information has been updated and expanded upon in the FEIS. For further information see **Section III.B.6c**.

### **D. Clarification of construction period**

More detailed information concerning construction schedules and closure periods is provided in the FEIS (see reference section). This information specifies the times of the day, days of the week, seasons of the year, and number of construction seasons that construction activities and closures will take place. For further information see **Section III.B.6**.

## **E. Cost of maintenance**

Costs for maintenance were developed based on traffic volumes, future surface conditions, climatic conditions, and the Counties' maintenance budgets and resources. The process used to develop the costs was based on a valid and accepted means of calculating costs for such a project. The maintenance costs are intended to give a general feel for relative costs. For further information see **Section III.C.11**.

## **F. Impacts to Georgetown**

Issues specific to Georgetown are addressed in **Section III.G.1b**. Based on agency correspondence, the Town appears to accept the proposed design and drainage improvements of Alternative 6, within their jurisdiction. The FHWA is committed to addressing the concerns about impacts to the Town of Georgetown. For further information see **Section IV.I.4 and III.G**.

## **G. Traffic numbers**

The traffic volume information presented in the SDEIS is based on traffic studies completed between August of 1994 and August of 1995. This traffic count data is presented in its entirety in the *Guanella Pass Road Traffic Study, Technical Memorandum, Traffic Volume Projections*, (MK Centennial, September 29, 2001). The information-gathering methods presented in this technical memorandum as well as in the SDEIS are based on accepted engineering techniques and standards.

The year 2025 No-Action traffic projections for the road were updated to reflect an annual traffic increase of 1.5 percent, which is consistent with the rate of increases for roads 'similar to' Guanella Pass Road.

## **H. Traffic on US 285**

This report is focused on impacts from the Guanella Pass Road project. Traffic on US 285 may or may not have any influence on this project. FHWA initially considered including US 285 expansion as part of its cumulative effects analysis but eliminated it from consideration when it was learned that expansion would only extend west to Bailey, CO.

## **I. Character issues of road**

**Table IV- 8** in the SDEIS presented road character elements to better address the issues relative to each build alternative. **Table III-12** elaborates on these issues by including more character elements. The Town of Georgetown, Clear Creek County, and Park County developed these character elements. For further information see **Section III.B.3**.

## **J. Impacts to wildlife**

Wildlife impacts of Alternative 6 are of the lowest magnitude of any build alternative. See **Section III.B.5: Plants and Animals** for additional information on impacts to wildlife.

## **K. Pedestrian/bike/equestrian issues**

Adding width to the roadway to accommodate pedestrians and bicycles was eliminated from consideration because of the additional environmental impacts that would occur. Pedestrians and bicyclists will have to “share the road” with motor vehicles.

The FHWA is working to minimize impacts to equestrian usage, including the creation of an equestrian trail (see **Section II.E.4**). For further information see **Sections II.F.4 and III.B.4c**.

## **L. No mitigation for people affected by construction**

In addition to the construction mitigation measures listed in the SDEIS, other mitigation is discussed in the FEIS to prevent disruption to the community and tourists visiting the area. An additional mitigation measure includes the location of staging areas within the Guanella Pass Road corridor to reduce the amount of construction truck traffic. Haul routes that avoid most of Georgetown’s business areas are also under consideration and would reduce impacts to residents and visitors. For further information see **Section IV.I**.

## **M. No litigation for easements and ROW**

Property acquisitions will be done in accordance with applicable provisions of the Uniform Relocation and Real Property act of 1970 (P.L. 91-646) and the Uniform Relocation Act Amendment of 1987. For further information see **Section III.C.5**.

## **N. Traffic during construction**

The FEIS includes additional information about traffic delays during construction. One option for mitigation of construction delays includes the location of staging areas within the Guanella Pass Road corridor to reduce the amount of construction truck traffic. Construction traffic will be routed through Georgetown using an agreed upon route that minimizes traffic impacts. Construction of a bridge at 7<sup>th</sup> Street is under consideration and would allow the haul route to bypass most of Georgetown’s high traffic areas. For further information see **Sections III.B.6g and IV.I**.

## **O. Changes that may occur in design**

Design issues are discussed in as much detail as possible for the current phase of this project. An important consideration in the design of improvements to Guanella Pass Road is to maintain flexibility in decision-making. Committing to specific final design elements early in the NEPA process limits future design considerations to the extent that future design cannot address different issues and concerns that may arise during the NEPA process and after the process has been completed. In addition, providing information on every potential change that could occur in the final design phase would be neither practical nor cost-effective. For further information see **Section II.G**.

#### **P. Vibrations due to construction**

A vibration study was conducted in Georgetown between June 18, 2001 and July 10, 2001. This study was conducted simultaneously with the placement of test strips of alternative surface types. The test results indicate that the vibrations created by the construction traffic are well below the levels considered to be harmful to historic structures. For further information see **Section III.B.6f**.

#### **Q. Difference between light reconstruction and rehabilitation**

Light reconstruction work can include all of the activities listed under rehabilitation as well as additional activities (see reference section) so long as the work occurs within the existing road's original construction disturbance. For further information see **Section II.D.4e.ii**.

#### **R. Economic impact determination**

A more detailed analysis of economic impacts for local communities is included in the FEIS. Additional information includes case studies for three communities that have experienced roadway construction projects similar to the proposed improvements to Guanella Pass Road. Based on the three economic case studies, construction activities did not conclusively have a negative impact on any of the three towns studied. However, deterrents to the growth of the economies of Georgetown, Grant, and Bailey could occur if the road is improved. These deterrents could include traffic congestion and limited parking that tends to discourage visitors. For further information see **Section III.B.1d, III.B.6h**.

#### **S. Vague language**

All information presented in the SDEIS is based on analysis and research that has been completed by professionals with extensive knowledge and training in these fields. In some cases language may appear to sound vague due to circumstances such as a lack of information available (this is generally stated in the text) or the phase of the project, which might not allow for the availability of specific information at the time. An example of this would be certain design issues. Because final design issues are not addressed and solidified until later phases of the project, only the preliminary design information is provided.

#### **T. Air quality**

Air quality is not elaborated upon in the SDEIS because Alternative 6 would cause no supplemental environmental impacts to air quality. As noted, the dust suppression of the alternative surface types is a beneficial impact to the air quality in the corridor. For further information see **Section III.C.1**.

#### **U. Environmental issues**

All environmental issues for improvements to Guanella Pass Road have been addressed in the FEIS in accordance with NEPA standards and all other federal regulations.

## **V. Community involvement**

Numerous public meetings, workshops, and hearings have been held since the project's inception (see referenced section) to inform the public about the project and receive public input.

Alternative 6 was developed based on public comments received on the DEIS. The 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. These work group sessions were held from early February through early May 2000 and were open to the public for observation. For further information see **Section I.B.2-4 and Chapter VII**.

## **W. Visual impacts**

The SDEIS presents a table of road character elements (**Table IV-8**) to better address the issues for visual quality relative to each build alternative. The FEIS elaborates on these issues (**Table III-12**) by including more character elements. The Town of Georgetown, Clear Creek County, and Park County developed these character elements. For further information see **Section III.B.3**.

## **Y. School children impacts**

Construction routes for the project will avoid the streets near the school, if possible. In addition, it is expected that truck traffic will operate below existing traffic speeds.

## **Z. Quality of life**

During the preparation of the DEIS, a survey was given to the people within the Guanella Pass area to understand their perceptions of the project. Most of the respondents believe that their quality of life is impacted by all of the build alternatives. They believe that any improvements to Guanella Pass Road, especially paving, will directly affect the character of the community. Traffic forecasts for each of the alternatives show that Alternative 6 will have the least traffic impact of all build alternatives, thus helping to maintain the community character. In addition, alternative surface types have been proposed as a means of maintaining the rustic character of the road. For further information see **Section III.B.1a**.

## **AA. Revegetation**

Specific revegetation issues are not addressed as a part of the EIS process. Revegetation of cut slopes and other areas will take place in accordance with FHWA's best management practices (BMP's), described in the FHWA Standard Specifications and FS revegetation guidelines. A revegetation plan will be developed in coordination with the local weed control officer and the FS and implemented for disturbed areas. For further information see **Sections IV.I.3 and IV.G**.

## **Category 24: Problems with the SDEIS**

This category addresses comments concerning issues in the SDEIS that were major problems. The subcategories for problems with the SDEIS are as follows:



### **A. Design vehicle too big**

The design vehicle under Alternative 6 is a Class C recreational vehicle with a wheelbase of 17 feet. This is reduced from the DEIS build alternatives, which proposed a design vehicle of a single-unit truck with a wheelbase of 20 feet. The design vehicle for Alternative 6 was chosen to represent a designated class of vehicle that the road is intended to accommodate and is not necessarily the majority of vehicles using the road. Reducing the wheelbase of the design vehicle allows a design that more closely follows the existing roadway and better matches the radii of the existing switchbacks. For further information see **Section II.D.4c**.

### **B. Not representative of public's wishes**

During the comment period for the DEIS, several major issues were identified, including the need to develop a new alternative. The majority of commentaries agreed with the need for repair or maintenance of the road, but not to the extent described by the build alternatives in the DEIS.

Based on comments received from the public on the DEIS, 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 new alternative was developed to be more responsive than the DEIS build alternatives to the environmental setting and the rustic and rural character of the road. For further information see **Section I.B.4**.

### **C. Does not address environmental concerns**

All environmental issues for improvements to Guanella Pass Road have been addressed in the FEIS in accordance with NEPA standards and all other federal regulations. For further information see **Chapters III and IV**.

### **D. Time table for construction**

Detailed information concerning construction schedules and closure periods is provided in the FEIS. This information details the times of the day, days of the week, and seasons of the year that construction activities and closures are estimated to take place. For further information see **Sections III.B.6a and III.B.6c**.

### **Category 25: No Guarantee that Guanella Pass Will Not Continue to Change**

This category addresses comments made concerning the issue of Guanella Pass continuing to change and develop into a highway. There were no subcategories related to this category.

#### ***Response:***

Future development activities occurring after construction of Guanella Pass Road are unforeseeable. However, Alternative 6 is intended to maintain the rustic character of the corridor by designating this road as a rural local road, and discourage use of the road as a throughway or highway between Interstate 70 and US 285.

## **Category 26: Oppose SDEIS Alternative**

This category addresses comments opposing Alternative 6. The subcategories for opposing the SDEIS Alternative 6 are as follows:

### **A. Alternative 6 is not enough of a compromise**

The improvements proposed for Guanella Pass Road under Alternative 6 are the minimum acceptable standards set by the FHWA, the FS, and the CDOT to be eligible for federal money under the Forest Highway Program. These standards are the minimum requirements for safety and operations of the traveling public based primarily on anticipated future traffic volumes on the roadway and type of use.

The DEIS contained proposing build alternatives up to 100 percent reconstruction of the road. The FHWA created Alternative 6 with input from local agencies to serve as a compromise from 100 percent full reconstruction to only 19 percent full reconstruction of the road. For further information see **Section II.B.6**.

### **B. Not enough problems solved by Alternative 6**

Alternatives 2-5 were developed to most effectively address all safety issues and the inadequate surface condition of the roadway. The majority of public comments on the DEIS agreed with the need for repair or maintenance of the road, but not to the extent described by the build alternatives in the DEIS. Alternative 6 was developed to balance the need for the necessary improvements to the road with public sentiment and the sensitive environment. For further information see **Section I.B.4**.

## **Category 27: Comment Previously Addressed (Public Hearing)**

This category includes commentaries stating that another member of the public earlier in the public hearing already stated their comment. This category is to ensure that all comments are accounted for. There are no subcategories included with this category.

## **Category 28: Concerns with Construction**

This category addresses comments referring to concerns regarding problems associated with construction. The subcategories for concerns with construction are as follows:

### **A. Construction impacts on wildlife**

The increased noise and activity of construction operations may affect wildlife in the immediate vicinity. Activities such as blasting, clearing, and grading will be appropriately scheduled to minimize the disturbance to wildlife during critical periods (e.g. nesting for sensitive bird species). Other mitigation efforts will be directed toward short-term and long-term reestablishment of habitat and structural diversity. Displacement of birds, mammals, and aquatic life are limited in extent and duration with effective best management practices (BMP's) and mitigation activities. For further information see **Sections III.B.5 and IV.G**.

## **B. Construction truck traffic**

Impacts including noise and traffic congestion will result from construction traffic under any of the EIS alternatives during construction activities. However, mitigation measures will be implemented during construction activities to lessen these impacts. See reference section for a list of these mitigation measures. For further information see **Sections III.B.6c and IV.I.1-2.**

## **C. Construction of retaining walls**

Retaining walls are necessary for sections of the road that have been identified in areas where additional safety measures are needed or in areas where the proposed geometry of the road is not easily accommodated by the existing roadway conditions. The walls under consideration will blend in with the natural setting for a more aesthetic appearance. Several options are presented in the FEIS to reduce potential visual impacts created by retaining walls (see referenced section). These options include tiering and use of context-sensitive materials. For further information see **Section II.G.1**

## **D. Road surface damage from construction vehicles**

Special care will be taken to minimize damage to roads from construction vehicles. Measures such as creating more than one construction route to spread out the impact and reduction of speeds through sensitive areas will be used during construction activities. FHWA is committed to repairing, restoring, or resurfacing roads in Georgetown that are impacted by construction vehicles or equipment. The use of materials source sites and equipment staging areas along the road will reduce the construction vehicle traffic through near by towns. For further information see **Section III.B.6I.**

## **E. Road location**

The alignment Alternative 6 more closely matches the existing road. In areas where safety issues are a substantial concern, a slightly different alignment is proposed to correct these deficiencies. For further information see **Sections II.D.4 and III.B.3.**

## **F. Construction impacts on the environment**

All environmental issues for improvements to Guanella Pass Road have been addressed in the FEIS in accordance with NEPA standards and all other federal regulations.

In addition, the contractor's activities occurring during construction will be closely monitored and are subject to legal requirements as set forth in the design plans and by FHWA standards. Any non-compliance by the contractor as far as all requirements set forth or adherence to design plans would be the liability of the contractor. For further information see **Section IV.I.**

## **G. Pedestrian/horse/bike safety during construction**

Construction activities will discourage recreational use of the Guanella Pass area. Construction related impacts such as noise, dust, visual impacts, and traffic delays will make the construction

zones less appealing to visitors. Construction will be done in limited areas in any given year, so most of the route will be relatively unaffected at any particular time. Mitigation measures will be used to reduce potential impacts to pedestrians, bicyclists, and horses during construction (see reference). For further information see **Section IV.I.1**.

## **H. Construction impacts on the economy**

While construction activities might temporarily affect the local economy during certain phases, measures will be taken to lessen impacts to the area. See reference section for a list of these measures.

In addition to the measures in **Section III.B.6i**, Alternative 6 would require less hauling Alternatives 2-5 (consistent with a lesser amount of reconstruction and/or paving). For further information see **Sections III.B.6h and III.B.6i**.

### **Category 29: Want Another Alternative**

This category addresses comments requesting that another alternative be considered. The subcategories for wanting another alternative are as follows:

#### **A. Winter closure**

The decision to close or not maintain Guanella Pass Road during the winter lies with the agencies that have legal jurisdiction of the road: the FS, Park County, Clear Creek County, and the Town of Georgetown. This option may be considered by these agencies in combination with other improvements to the road. For further information see **Section II.E.3**.

#### **B. Road closure**

This alternative was eliminated from consideration because it does not adequately address the objectives of the Guanella Pass Road project. In addition, it does not support the activities or meet the FS goals of providing mobility within the project corridor and access for the general public to forest resources. For further information see **Section II.F.1**.

#### **C. Pursue other options for financing road improvements**

In 1987, the Counties approached the FHWA to request funding for improvements to Guanella Pass Road. The FHWA has developed roadway improvement alternatives for the Counties to consider. If the Counties do not accept the Record of Decision produced by the FHWA for this project, other opportunities could be pursued with the involvement of the County Commissioners.

#### **D. Control access**

Land management agencies are responsible for determining the extent and location of access. In addition, controlling access to the road does not support the activities of the FS and does not meet the FS goals of providing mobility within the project corridor and access for the general public to forest resources. For further information see **Section II.F**.

## **E. Bypass Georgetown**

A construction bypass bridge and haul route along the railroad grade is being considered as a route for construction traffic so that construction trucks will not go through the portions of the town that are of most concern. However, in order to implement this option, the FHWA needs Georgetown to commit to obtaining a temporary easement from the private property owner, over whose property the temporary bridge crosses

None of the permanent bypass options for the Town of Georgetown presented in the DEIS were considered desirable, and all were dropped from further consideration. For further information see **Sections III.B.6c, II.F.6, and II.F.9.**

## **F. Rehabilitation**

To fulfill the project objectives identified for this project such as safety, drainage, and slope stability, a full reconstruction level of improvement is necessary for certain areas of the roadway. Alternative 6 was developed to provide a greater amount of rehabilitation of the roadway, with full reconstruction proposed only for areas with substantial safety and/or maintenance concerns.

In addition, it is not considered a wise investment of resources to perform road improvements (e.g. further reduce the proposed width, resurface the road without widening the narrowest portions, or not correct the most deficient alignment and geometric inconsistencies) that soon will become inadequate or inappropriate. The most hazardous conditions would be left unaddressed and may leave the counties, the FS, and the FHWA with a facility having many operational, maintenance, and safety liabilities. For further information see **Section II.B.6.**

### **Category 30: How Is the Final Decision Made**

This category addresses comments questioning how the final decision of an alternative for Guanella Pass is made. There are no subcategories included with this category.

#### ***Response:***

The purpose of NEPA is to ensure disclosure of reasonably identifiable environmental impacts that of a proposed action prior to its implementation. The FHWA will determine whether or not the project has a substantial environmental impact or if impacts of the project can be mitigated adequately with proposed mitigation measures. Based on these findings the FHWA will produce a Record of Decision. Voting is not part of the procedure to produce a Record of Decision. The County Commissioners, however, may decide to vote on whether or not to support the ROD or to concur with the final design.

### **Category 31: FHWA Money Can Be Used Elsewhere**

This category addresses comments relating to the fact that FHWA money involved with the Guanella Pass project can be used on other projects if determined it will not be used for this project. There are no subcategories for this category.

#### ***Response:***

Funds currently allocated for Guanella Pass Road may be used for other Colorado roads in the Forest Highway Program.

### **Category 32: Too Much Money Spent on this Project**

This category addresses comments concerning the issue that too much taxpayer money has been spent to date on this project. There are no subcategories for this category.

#### ***Response:***

This comment has been noted and will be considered as part of the official documentation for this project.

### **Category 33: Oppose All FHWA Alternatives**

This category addresses comments reflecting opposition to all alternatives presented in both the DEIS and the SDEIS. There are no subcategories for this category.

#### ***Response:***

This comment has been noted and will be considered as part of the official documentation for this project.

### **Category 34: Request for Comment Period Extension**

This category addresses comments requesting an extension on the cut off date for the public comment period. There are no subcategories for this category.

#### ***Response:***

The comment period for the SDEIS was extended for 45 days beyond the original deadline.

### **Category 35: Only Acceptable Alternative Must Include Specific Items**

This category addresses comments concerning specific items that must be included in an alternative for the alternative to gain public support. This category contains some of the information in Form Letter #6, however additional information was included with the individual letters addressing these issues and therefore a category 35 was established to address these combined issues. The combined issues that the only acceptable alternative must include are:

#### **A. Original road area must remain in its current limits of disturbance**

Alternative 6 was developed to provide an alternative for improvements to Guanella Pass Road that differs from the DEIS build alternatives. The alignment of this new alternative more closely matches the existing roadway. The existing roadway width for the sections proposed for reconstruction under the build alternatives is already narrower than recommended AASHTO guidelines. The proposed width is the minimum recommended under FHWA CFLHD guidelines for the level of traffic, and the minimum that is supported by the FS and the CDOT for reconstruction of this type of forest road with the anticipated level of traffic and the type of use.

It is not considered a wise investment of resources to perform road improvements (e.g. further reduce the proposed width, resurface the road without widening the narrowest portions, or not correct the most deficient alignment and geometric inconsistencies) that soon will become inadequate or inappropriate. To remain entirely within the current limits of disturbance would maintain the most hazardous conditions of the road and would leave the Counties, FS and the FHWA with a facility having many operational, maintenance, and safety liabilities. If FHWA were

required to select between keeping the road entirely within the original limits of disturbance Alternative 1, FHWA would select Alternative 1. For further information see **Section II.B.6**.

**B. No heavy construction, blasting, or construction materials hauling should be permitted up either side of the Pass**

It is not possible to perform the needed improvements in the given construction season without heavy construction, blasting, and hauling. FHWA has worked very hard to minimize construction impacts to the greatest extent possible. Less than ten percent (possibly less than five percent) of the construction work will require rock blasting. The rock blasting is mostly anticipated for reduction of small isolated rock outcrops and individual boulders, and is necessary to address safety issues.

Mitigation measures will be used to minimize impacts from construction activities. Continued coordination will take place between the FHWA and Clear Creek County, Park County, the Town of Georgetown, local landowners to discuss the timing of construction activities. The use of staging areas and materials source locations within the corridor will minimize hauling distances (see reference section). For further information see **Section III.b.6c-e**.

**C. The project should only focus on repairing the existing surface type and fixing drainage and erosion problems**

See subcategory A above for response.

**D. The project should only be classified as a rehabilitation project**

See Category 29F above for response.

**E. Any damage to private property owners in both Park County and Clear Creek County should be compensated by the Federal Highway Administration**

Contractors will be liable for damage of private property resulting from construction activities.

**FORM LETTERS**

The comments also include six form letters as described below. These letters are included in the *Summary of Comments* document.

**Form Letter #1**

**A. Oppose Alternative 6**

This comment has been noted and will be considered as part of the official documentation for this project.

**B. Oppose all FHWA Alternatives**

This comment has been noted and will be considered as part of the official documentation for this project.

### **C. Alternative 6 does not respond to previous comments**

FHWA acknowledges that Alternative 6 does not contain all the design considerations desired by the public. Alternative 6 is FHWA's best attempt to respond to public comments without undermining the engineering industry standards that must be used to design this or any road. FHWA has made it clear at the public hearings held in December 2000 that the rehabilitation-only alternative requested by the public is not feasible, nor a wise use of federal funds. If forced to choose between a rehabilitation-only alternative and the Alternative 1, FHWA would be forced to select Alternative 1.

### **D. Only acceptable alternative will include:**

#### **1) Roadway area to be in current limits of disturbance**

See Category 35A above for comment response.

#### **2) No heavy construction, blasting, or hauling through towns/over pass**

See Category 35B above for comment response.

#### **3) Only repair the existing surface, fix drainage, and erosion problems**

See Category 35A above for comment response.

#### **4) Rehabilitation only**

See Category 29F above for comment response.

#### **5) Any damage to private property must be compensated by FHWA**

See Category 35E above for comment response.

### **Form Letter #2**

#### **A. Greatly concerned about construction impacts (truck traffic, construction duration, economy, vibration, air quality, noise, quality of life)**

##### *Truck traffic*

Some construction impacts are anticipated under any of the EIS alternatives during construction activities. However, mitigation measures for truck traffic will be used during construction activities. See reference section for a full description of these mitigation measures.



In addition to the measures in **Section IV.I**, Alternative 6 would require less hauling than Alternatives 2-5 (consistent with a lesser amount of reconstruction and/or paving). For further information see **Sections III.B.6I and IV.I**.

#### *Construction duration*

Under the DEIS build alternatives, the worst-case scenario projected construction activities to take place over seven to ten years. Under Alternative 6, the construction in Clear Creek County will be done in two phases and will require no more than three construction seasons for each phase. The construction period on the Park County side will also be done in two phases and will require no more than three construction seasons for each phase.

An option under consideration for mitigation of construction delays includes the location of staging areas within the Guanella Pass Road corridor to reduce the amount of construction truck traffic. This could potentially reduce the construction period as well. For further information see **Section III.B.6c**.

#### *Economy*

While construction activities might affect the local economy temporarily during certain periods, measures will be taken to lessen impacts to the area. For further information see **Section III.B.6h**.

#### *Vibration*

A vibration study was conducted in Georgetown between June 18, 2001 and July 10, 2001. This study was conducted simultaneously with the placement of test strips of alternative surface types. The preliminary results indicate that the trucks used to conduct these studies did not produce vibrations damaging to historical structures. For further information see **Section III.B.6f**.

#### *Air quality*

Air quality impacts in the vicinity of construction are localized and temporary. Dust particles stirred up during construction and vehicle emissions from construction equipment and delayed vehicles will temporarily affect air quality. Pollution levels are not expected to exceed air quality standards. For further information see **Sections III.B.6a and IV.I.1**.

#### *Noise*

Noise from construction equipment and operations will impact the residents of Georgetown and Grant, as well as hikers, campers, and tourists in the vicinity of Guanella Pass Road. Impacts will vary depending on the operations taking place and the location of construction during that time. Techniques considered to control noise during construction include restricting noisy construction operations to specific times of the day and specific times of the year and requiring adequate mufflers on all equipment. These measures help eliminate construction noise during sensitive nighttime and early morning hours, and minimize it at other times. For further information see **Sections III.B.6e and IV.I.1**.

#### *Quality of life*

Several measures will be used to reduce impacts to the local communities during construction activities. While the quality of life may be lessened for some local residents during these activities,

construction activities would be scheduled in such a way that most of the route will be relatively unaffected in any given time period. For further information see **Section III.B.6I**.

**B. Want rehabilitation to be the newly developed alternative**

See Category 29F above for response.

**C. Do not accept Alternative 6**

This comment has been noted and will be considered as part of the official documentation for this project.

**Form Letter #3**

**A. Need “now” solution to a “now” problem, i.e., the issues have changed since the project’s inception and these new issues need to be addressed**

While the duration of the project has taken place over a long period of time, each document produced for the Guanella Pass Road EIS contains relevant, updated information. For example, in the DEIS, traffic volumes had been projected through the year 2015 to represent 20-year volumes. In the SDEIS, these volumes were further projected to the year 2025 to represent the updated information relative to the current year of planning for the project.

In addition, new issues identified over time through the public hearing process have been included in subsequent documents, such as winter closure and alternative surface types.

**B. Alternative 1 doesn’t solve all problems but it does preserve existing conditions**

Existing conditions on Guanella Pass Road would be preserved only for the short-term. Even without construction, traffic is projected to increase, which means that the road surface will continue to deteriorate and erosion and sedimentation will increase. Operational and safety problems will worsen and proper road maintenance will become virtually impossible given the county road budgets. In the long-term, Alternative 1 will not preserve existing conditions; it will only make them worse. For further information see **Section II.B.1**.

**C. Issues related to project**

**1) Construction impacts**

Potential construction impacts are anticipated and several mitigation measures have been planned to reduce and/or avoid these impacts to the economy, local traffic, environment, wildlife, etc. For further information see **Sections IV.I.1 and III.B.6**.

## **Wetland impacts**

Based on wetland impacts identified under the DEIS build alternatives, alignments were adjusted to avoid impacts where possible and reduce impacts where they were unavoidable under Alternative 6. It is anticipated that additional adjustments such as minor alignment shifts, steepening fill slopes, and the use of retaining walls will be made during final design to further reduce impacts. See referenced section for a list of measures to be used to mitigate wetland impacts. For further information see **Sections III.B.2b and IV.D.**

## **2) Endangered species impacts**

The BA/BE suggests that the Boreal Toad (Candidate, State Endangered) and Canada Lynx (Federally Threatened, State Endangered) are likely to be adversely affected by any of the build alternatives. The USFWS will be requested to review the mitigation proposed for impacts to these species. Findings also indicate any adverse impacts that occur to FS sensitive species should not substantially affect their viability under any of the alternatives.

A mitigation plan will be implemented to reduce and/or avoid impacts to endangered species. Winter closure could also result in beneficial reduction of potential impacts to wildlife, especially threatened and endangered species. For further information see **Sections III.B.5b and IV.H.**

## **3) Overuse of wilderness areas**

Alternatives formalize established parking areas considered and discourage use of non-formal parking. This will alleviate some of the problems of inappropriate use and overuse.

In addition, interpretive signs developed in concert with the CMS plan will provide information about the natural environment and recreation opportunities in the area and educate people about ways to minimize environmental impacts from recreational uses. Ultimately, how much use a wilderness receives can be controlled by the FS through a permit program and, therefore, extends beyond the FHWA's jurisdiction. For further information see **Section IV.F.**

## **4) Local citizen safety**

As part of the mitigation measures for construction activities, work will be performed in a manner that assures the safety and convenience 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. Drivers of construction vehicles must follow the same traffic laws as any other citizen. For further information see **Section IV.I.1.**

## **5) Economy**

While construction activities might affect the local economy temporarily during certain phases, measures will be taken to lessen impacts to the area. See reference section for a list of these

measures. Also, Alternative 6 would require less hauling than Alternatives 2-5 (consistent with a lesser amount of reconstruction and/or paving). For further information see **Section III.B.6h**.

**6) Pollution – air, noise, and water**

*Air pollution*

Pollution in the area from vehicle emissions would increase in proportion to the traffic increase, but would still not pose any threat to wildlife populations, vegetation, or human populations. For further information see **Section III.C.1**.

*Noise*

A complete noise analysis was conducted for the Guanella Pass Road improvement project. The existing condition, Alternative 1, and all build alternatives (Alternatives 2-6) were analyzed.

Based on the noise analysis, none of the alternatives produce substantial traffic noise impacts. State transportation agencies do not implement mitigation measures for changes in noise levels of less than 10 to 15 dBA. None of the areas analyzed were projected to experience more than a 5-dBA increase with future traffic projections. It should be noted that along Loop Drive, noise levels are produced primarily by traffic on Interstate 70 and not Guanella Pass Road. No substantial benefit is derived from mitigation of local traffic noise produced by the project. For further information see **Section III.C.2**.

*Water pollution*

Alternative 6 will improve the existing conditions that degrade the water quality, such as eroding roadway ditches, shoulders, and embankments. The use of BMP's during and after construction, and an aggressive revegetation program, are expected to improve the conditions for water quality. Alternative surface types for the gravel surfaces create a harder surface than reconstructed gravel, which may provide more opportunity for erosion control and reduced sedimentation runoff. For further information see **Sections III.B.1 and IV.I.3**.

**Form Letter #4**

**A. Need “now” solution to a “now” problem, i.e., the issues have changed since the project’s inception and these new issues need to be addressed**

See Form Letter #3, Category A above for comment response.

**B. Issues related to project**

**1) Construction impacts**

See Form Letter #3, Category C1 above for comment response.

**2) Wetland impacts**

See Form Letter #3, Category C2 above for comment response.

**3) Endangered species impacts**

See Form Letter #3, Category C3 above for comment response.

**4) Overuse of wilderness areas**

See Form Letter #3, Category C4 above for comment response.

**5) Local citizen safety**

See Form Letter #3, Category C5 above for comment response.

**6) Economy**

See Form Letter #3, Category C6 above for comment response.

**7) Pollution – air, noise, and water**

See Form Letter #3, Category C7 above for comment response.

**C. Alternative 1 doesn't solve all problems but it does preserve existing conditions**

See Form Letter #3, Category B above for comment response.

**Form Letter #5**

**A. Construction affects quality of life**

FHWA acknowledges that construction will have a temporary impact on the local citizenry. Several mitigation measures will be used to reduce impacts to the local communities during construction activities. While the quality of life may be lessened for some local residents during these activities, construction activities would be scheduled in such a way that most of the route will be relatively unaffected in any given time period. See **Sections III.B.6I and IV.I** for a complete description of mitigation measures..

**B. SDEIS does not thoroughly address safety issues and construction impacts**

Alternative 6 was developed to address the many safety issues identified. Some of these include rockslides, protection of hazards, washboarding, and deficient roadway surface. Alternative 6 includes a change in functional classification of the roadway, from a rural collector to a rural local road. This reclassification may increase safety on Guanella Pass Road (compared to the DEIS build alternatives) as the more curvilinear alignment and narrower width, which prevent excessive speeds.

The construction impacts section of the FEIS was expanded substantially to address all construction impacts identified by previous public and agency comments. For further information see **Sections I.C.1c, III.B.6i, and IV.I**.

**C. Trade-off of getting road work done isn't worth ruining environment**

While some environmental impacts may occur because of construction activities, improvements to the road would mitigate many existing environmental problems in the area. See reference section for issues that would be addressed by improvements. For further information see **Sections I.C and Chapter IV**.

Other measures to prevent impact to natural resources resulting from increased use is the use of guardrail, designated pullouts, and formalized parking areas. These measures will help to control the amount of recreational use in undefined or undesirable areas.

**D. Do not accept Alternative 6; want minimum rehabilitation instead**

See Category 29F above for response.

**Form Letter #6**

**A. Opposition to Alternative 6**

This comment has been noted and will be considered as part of the official documentation for this project.

**B. Alternative 6 will destroy the scenic, aesthetic, rural, and rustic nature of the area**

Improvements under Alternative 6 have less visual impact on the surrounding area than the DEIS build alternatives. This alternative is intended to retain the visual quality and character of the road. Based on the road character elements defined in **Table III-12**, Alternative 6 is the most consistent of all build alternatives in keeping with the existing character of the road.

The SDEIS also introduced alternative surface types for consideration in roadway design as well as retaining walls, slope treatments, and guardrail design and materials that create an aesthetic design in keeping with the character of the road. For further information see **Sections III.B.1 and III.B.3**.

**C. The only acceptable alternative must consist of:**

**1) Roadway area to be in current limits of disturbance**

See Form Letter #1, Category D1 above for comment response.

**2) No heavy construction, blasting, or hauling through towns/over pass**

See Form Letter #1, Category D2 above for comment response.

**3) Only repair the existing surface, fix drainage, and erosion problems**

See Form Letter #1, Category D3 above for comment response.

**4) Rehabilitation only**

See Form Letter #1, Category D4 above for comment response.

**5) Any damage to private property must be compensated by FHWA**

See Form Letter #1, Category D5 above for comment response.

**Petition #1**

A summary of the issues addressed in Petition #1 is as follows:

**A. Opposition to Alternative 6**

This comment has been noted and will be considered as part of the official documentation for this project.

**B. Oppose all FHWA alternatives**

This comment has been noted and will be considered as part of the official documentation for this project.

**C. The only acceptable alternative must consist of:**

**1) Roadway area to be in current limits of disturbance**

See Form Letter #1, Category D1 above for comment response.

**2) No heavy construction, blasting, or hauling through towns/over pass**

See Form Letter #1, Category D2 above for comment response.

**3) Only repair the existing surface, fix drainage, and erosion problems**

See Form Letter #1, Category D3 above for comment response.

**4) Rehabilitation only**

See Form Letter #1, Category D4 above for comment response.

**5) Any damage to private property must be compensated by FHWA**

See Form Letter #1, Category D5 above for comment response.

**Petition #2**

The petition expresses an opposition to reconstruction of the road with the need for rehabilitation in Clear Creek County while maintaining the current roadway width and surface type, but improving the drainage and surface quality.

**Response:**

See Category 29F above for response.

**Petition #3 – “Save Guanella Pass”**

**A. The project funding was first approved ten years ago**

The project was approved for available funding beginning in 1993, assuming a build alternative would be selected.

**B. The public does not want the project**

During the initial scoping and development of the DEIS, some opposition to the project was voiced. As comments were received after the release of the DEIS, several major issues were identified, including the need to develop a new alternative. The majority of commentaries agreed with the need for repair or maintenance of the road, but not to the extent described by the build alternatives in the DEIS. The commentaries indicated that a new alternative should be developed that emphasizes rehabilitation or minimal improvements to Guanella Pass Road. Alternative 6 was developed to be more responsive than Alternatives 2-5 to the environmental setting and the rustic and rural character of the road. For further information see **Section I.B.4**.

**C. The Commissioners have had adequate time to study the issue**

The Park and Clear Creek County Commissioners have been closely involved in the decision-making process since the inception of the project. By attending meetings, staying updated on all current literature and progress, and learning as much as possible about the project, they will be able to make the most informed decision about the project.

**D. \$50 million budget is for ten years of heavy construction and road closure, triple the traffic and increased traffic speeds, increased accidents and injuries, destruction of wildlife habitat, and \$5 million cost to the County and endless lawsuits**

*Construction period*

Under the DEIS build alternatives, the worst-case scenario projected that construction activities would take place over seven to ten years. Alternative 6 was developed in an effort to address the many concerns, including the impact that the construction seasons will have on the community. Under Alternative 6, the construction in Clear Creek County will be done in two phases and will require no more than three construction seasons for each phase. The construction period on the Park County side will also be done in two phases and will require no more than three construction seasons for each phase. Construction staging has not yet been determined. The FHWA will plan phases of construction in coordination with the Counties and local communities. For further information see **Section III.B.6c**.

*Increased traffic volumes and speeds*

Under the Alternative 1, traffic volumes are projected to increase approximately 56 percent by 2025. The improvements to the roadway under Alternative 6 increase traffic volumes over Alternative 1 levels by 20 percent at the summit. Because of the sharper curvature, narrower



roadway width, and lower speed limits, traffic volumes are not expected to increase as much under Alternative 6 compared to Alternatives 2-5. For further information see **Section III.B.1b**.

#### *Accidents and injuries*

Accident rates on Guanella Pass Road are notably higher than the accident rates on similar hard-surface recreational roads. Many safety deficiencies on the existing roadway create a high accident potential. The hazards created by these safety deficiencies, and left as they now exist with Alternative 1, will become an increasing problem as traffic volumes increase. For further information see **Section I.C.1c**.

#### *Wildlife habitat*

The extent of habitat disturbance and wildlife displacement under Alternative 6 is reduced in comparison to the DEIS build alternatives. Roadkill is projected to be reduced in comparison to the other DEIS build alternatives as a result of lower design speed and lower traffic volumes anticipated for Alternative 6. This is partially offset by poorer sight distances compared to alternatives with more full reconstruction. Several mitigation measures for wildlife habitat impacts will become elements of the selected alternative.

If implemented, winter closure would reduce direct/indirect impacts of the road on wildlife. For further information see **Sections III.B.5 and IV.G**.

#### *Costs to Counties*

Under Alternative 6, maintenance costs would be 64 percent of the Alternative 1 costs over a 20-year period. This is due to the increased life cycle of the improved roadway. For further information see **Section III.C.11**.

#### *Lawsuits/litigation*

Costs for litigation that may or may not result from the project cannot be estimated.

#### **Petition #4**

Petition #4 states opposition to reconstruction due to the following factors:

##### **A. Takes away the rustic and primitive character of the road and its surrounding areas**

Alternative 6 was presented after the public's comments on Alternatives 2-5. Alternative 6 was created to preserve the existing beauty and character of the road by providing a more environmentally and aesthetically sensitive alternative.

Improvements under Alternative 6 cause less visual impacts to the surrounding area. This alternative is intended to retain the visual quality and character of the road. Based on the road character elements defined in **Table III-12**, Alternative 6 is the most consistent in keeping with the existing character of the road.

The SDEIS also introduced alternative surface types for consideration in roadway design as well as retaining walls, slope treatments, guardrail design and materials that create an aesthetic design in keeping with the character of the road. For further information see **Section III.B.3**.

## **B. Inappropriate use of Guanella Pass Road would be encouraged**

Measures to prevent impact to natural resources resulting from increased and/or inappropriate use include the use of designated pullouts, guardrail, and formalized parking areas. These measures will help to control the amount of recreational use in undefined or undesirable areas. Ultimately, use of lands adjacent to Guanella Pass Road falls within the land management agency jurisdiction, not the FHWA. For further information see **Section III.B.4a**.

## **C. Serious destructive impacts on wildlife**

The extent of habitat disturbance and wildlife displacement under Alternative 6 is reduced in comparison to Alternatives 2-5. Roadkill is projected to be reduced in comparison to the other DEIS build alternatives as a result of lower design speed and lower traffic volumes anticipated for Alternative 6. This is partially offset by poorer sight distances compared to alternatives with more full reconstruction. Several mitigation measures for wildlife habitat impacts will become elements of the selected alternative (see reference section). If implemented, winter closure would reduce direct/indirect impacts of the road on wildlife. For further information see **Sections III.B.5 and IV.G**.

## **D. Up to nine acres of wetlands would be destroyed**

Wetland impacts for Alternatives 2-5 are greater than under Alternative 6. Alternatives 2 and 3 have the greatest impact at 2.96 hectares (7.32 acres). Alternative 6 has approximately 0.28 hectare (0.71 acre) of impact. However, it is anticipated that additional adjustments will be made during final design to further reduce wetland impacts. Any wetland impacts will be mitigated by the restoration of wetlands as approved by the EPA and the USACE. For further information see **Sections III.B.2b and IV.D**.

## **E. Noise**

See Form Letter #3, Category D7 above for response.

## **F. Paving and widening the Guanella Pass Road does not equal a safer road**

Alternative 6 partially improves the safety of the roadway. The reconstructed sections provide consistent geometry, improved sight distances, improved rockfall mitigation, and provision for vehicle pullouts.

In addition to the improved safety of the roadway, the lower design speed and curvilinear alignment of the road under Alternative 6 will prevent vehicles from traveling at excessive speeds. For further information see **Section I.C.1c**.

## **Petition #5**

Petition #5 expresses opposition to reconstruction with the following ideas mentioned:

## **A. Improving not in best long-range interests of Clear Creek County**

The existing roadway has safety and maintenance issues that would be in the best long-range interests of Clear Creek County to address. Alternative 6 improves the safety of the roadway. The reconstructed sections provide improvements such as consistent geometry, improved sight distances, improved rockfall protection, and provision for vehicle pullouts.

The cost of maintenance of the road after construction of Alternative 6 for 20 years is 64 percent of the cost of maintenance for Alternative 1. Maintenance cost estimates assume that the road-surfaces are maintained to a level consistent with standard recommended practices, preferred surface conditions, and projected traffic volumes. Long-term costs to maintain the road would be less expensive for the counties under Alternative 6. For further information see **Sections I.C.1c and III.C.11**.

## **B. Need to say no to rapid sprawl**

Rapid sprawl is not an issue with the proposed project given that only a small amount of land along Guanella Pass Road is privately owned. Historic Georgetown or the Historic District Public Lands Commission holds much of the private land near Georgetown and the Georgetown Reservoir for the purpose of protecting it from development. As a result, improving the road will cause little additional development in the corridor.

Potential secondary impacts to land use include increased tourist-oriented and recreation development. However, because Georgetown and Silver Plume are in historic districts, some controls such as the recently passed revised zoning regulations in Georgetown are in effect to determine the style and type of development or redevelopment that may occur within these towns.

Future development, either commercial or residential, will be regulated by the local land management agencies to be consistent with the rural local road functional classification. For further information see **Sections III.B.1c and III.B.1e**.

## **C. Few historic towns remaining**

Alternative 6 is anticipated to have less traffic and requires less construction hauling within the Historic Landmark District than the DEIS build alternatives. The narrow roadway width and sharp curve radii in the Georgetown area reduce the visual impact to Leavenworth Mountain and the District.

Retaining walls, careful blasting techniques, rock-cut stain, and revegetation will be used to minimize visual impacts to Section 4(f) Resources. For a more detailed list of measures to minimize impacts to historic resources, see reference section. For further information see **Section IV.K**.

## **D. Too much- too soon development will make us lose mountains**

See Petition #4, Category A above for response.

**E. We are becoming “Californicated”**

This comment has been noted and will be considered as part of the official documentation for this project.

**F. Won’t know what we have until it’s gone**

This comment has been noted and will be considered as part of the official documentation for this project.

**Petition #6**

Petition #6 was submitted by a group of glass artists. Commentaries expressed a desire for improvements to the roadway based on the following reasons:

**A. People are inspired by the beauty of the mountains and require safe travel**

The build alternatives developed for this project are intended to provide safety improvements for Guanella Pass Road by correcting deficient roadway conditions and accommodating existing and projected future traffic volumes.

**B. Guanella Pass is very dangerous**

See section A above.

**C. Improving/paving will make the drive more comfortable and safer for everyone**

See section A above.

**Petition #7**

Petition #7 was signed by business owners in Georgetown expressing opposition to reconstruction of the road. These business owners urge the pursuit of rehabilitation in Clear Creek County, maintaining the current roadway width and surface type, but improving the drainage and surface quality.

***Response:***

See Form Letter #1, Category D1 for response.

**Petition #8**

Petition #8 also expresses opposition to reconstruction:

**A. Opposition to Alternative 6**

This comment has been noted and will be considered as part of the official documentation for this project.

## **B. Oppose all FHWA alternatives**

This comment has been noted and will be considered as part of the official documentation for this project.

### **C. The only acceptable alternative must consist of:**

#### **1) Roadway area to be in current roadway width**

See Form Letter #1, Category D1 above for comment response.

#### **2) No heavy construction, blasting, or hauling through towns/over pass**

See Form Letter #1, Category D2 above for comment response.

#### **3) Only repair the existing surface, fix drainage, and erosion problems**

See Form Letter #1, Category D3 above for comment response.

#### **4) Rehabilitation only**

See Form Letter #1, Category D4 above for comment response.

#### **5) Any damage to private property must be compensated by FHWA**

See Form Letter #1, Category D5 above for comment response.

### **Petition #9**

Petition #9 expresses opposition to reconstruction of the road as proposed by the FHWA. The petition urges the pursuit of rehabilitation in Clear Creek County, maintaining the current roadway width and surface type, but improving the drainage and surface quality.

#### ***Response:***

See Form Letter #1, Category D1 for response.

### **Petition #10**

Petition #10 expresses opposition to all of the construction alternatives including Alternative 6. The petition states that none of the alternatives reflect the requests of the public. The only acceptable alternative that maintains the rural and rustic nature of Guanella Pass as requested by the public must consist of the following:

#### **A. Eliminate all full reconstruction and realignment**

See Form Letter #1, Category D1 for response.

**B. Retain the roadway slope, neighboring slopes, and old growth**

It is not considered a wise investment of resources to perform road improvements that soon will become inadequate or inappropriate, such as to further reduce the proposed width, resurface the road without widening the narrowest portions, or not correct the most deficient alignment and geometric inconsistencies. The most hazardous conditions would be left unaddressed and may leave the counties, the FS, and the FHWA with a facility having many operational, maintenance, and safety liabilities. For further information see **Section II.D.4.**

**C. Use natural materials on accompanying road structures and leave the unpaved surfaces unpaved**

Improvements under Alternative 6 are less visually impacting to the surrounding area than the DEIS build alternatives. This alternative is intended to retain the visual quality and character of the road. Improvements to the roadway also include alternative surface types for consideration in roadway design as well as retaining walls, slope treatments, and guardrail design and materials that create an aesthetic design in keeping with the character of the road. For further information see **Sections II.B.6, II.G and III.B.3.**

**D. Focus only on repairing existing surface type and fixing drainage and erosion problems**

See Form Letter #1, Category D1 for response.

**E. Construction impacts on communities and the Guanella Pass Road area must be very limited**

Several mitigation measures will be used to reduce impacts to the local communities during construction activities. While the quality of life may be lessened for some local residents during these activities, construction activities would be scheduled in such a way that most of the route will be relatively unaffected in any given time period. See **Sections III.B.6I and IV.I.1** for a list of mitigation measures for construction impacts.

**F. If changes to the design cannot be limited to maintenance improvements to the existing road surface, then we would like the FHWA to choose Alternative 1**

This comment has been noted and will be considered as part of the official documentation for this project.

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**APPENDIX C:**  
**RATIONALE FOR THE DESIGN CRITERIA AND THE PROPOSED  
IMPROVEMENTS FOR ALTERNATIVE 6 (THE PREFERRED  
ALTERNATIVE)**

The information contained in this appendix provides the rationale for design criteria *as it was presented in the SDEIS*. Since the release of the SDEIS, Alternative 6, as it is presented in this FEIS, has been modified slightly (surface types and number of segments). This appendix does not reflect these minor modifications.



## **Determination of Design Criteria for Alternative 6 (The Preferred Alternative)**

Various considerations influence the determination of design criteria for specific roadway projects. The primary considerations in roadway design are the intended function of the road (based in part on approved land management plans), the volume and type of vehicles to be accommodated, the type of terrain traversed, environmental constraints, and the desired user experience. These considerations are addressed through the selection and application of appropriate design controls and criteria. Design controls are those limiting characteristics, or situations, that the facility is intended to accommodate involving the vehicles, pedestrians, drivers, traffic, environmental conditions, etc. Design criteria are measurable values that relate to a level of performance, such as traffic volume, speed, road width, geometry, gradient, sight distance, etc. Controls and criteria are used in road design to ensure that the facility will safely and adequately accommodate the expected traffic use, and to encourage consistency of operation. The major design controls and criteria for rural roads such as the Guanella Pass Road are determined by the road's purpose, functional classification, design traffic volume, design speed, and design vehicle. Design criteria are based on established engineering practices and recent research. Highway design policies are developed through the continuing work of long-standing committees made up of the leading highway engineering professionals nationwide. For reconstruction projects, guidance is provided by *A Policy on Geometric Design of Highways and Streets, 1994*, published by the American Association of State Highway and Transportation Officials (AASHTO). For resurfacing, restoration or rehabilitation (3R) projects, guidance is provided by TRB Special Report 214, *Designing Safer Roads: Practices for Resurfacing, Restoration and Rehabilitation* and related publications. For Federally funded highway projects, Title 23 CFR Part 625 mandates that certain established design practices be used, based on the policies adopted by each State highway agency. In the case of the Guanella Pass Road, even though the road is under jurisdiction of local entities, the standards adopted by the Colorado Department of Transportation (CDOT) are applicable for any reconstruction or 3R work, and supercede the above references and publications.

The road should provide a design and environment consistent with the driving tasks required. Design consistency is recognized as critical to safety and operations, and is defined in the AASHTO publication *Highway Safety Design and Operations Guide, 1997*, as “the avoidance of abrupt changes in geometric features for contiguous highway elements and the use of design elements in combinations that meet driver expectations.” Design consistency is best achieved by selecting design criteria for all critical elements (roadway width, design speed, gradient) on a corridor rather than individual location basis. Drivers' experiences with the highway, roadside, and operational features (intersections, pullouts, signs, markings) along the road are the factors that establish their expectations and influence their behavior. Consistent highway design is extremely important to drivers because through past experiences they have learned how to react to common situations. Drivers will react in a consistent manner to familiar situations; conversely, if drivers experience new situations or situations they are not expecting, their responses are delayed and can be improper or detrimental. Inconsistencies in the design of such features as highway alignment, roadway width (including shoulders), intersection layout, roadside access, and roadside hardware (such as signs, guardrail) violate driver expectations and contribute to indecision or error. Coordinating the various design elements and roadway features to the drivers' expectations and avoiding abrupt changes in the design criteria greatly supports the driving task.

Design standards represent a set of minimum numerical values (e.g. sight distance, curve radius, lane and shoulder width) that should be provided to allow a given level of performance. A

comprehensive matrix of minimum design standards has been established by AASHTO and adopted by the CDOT and FHWA for various types of highways, ranging from local roads to interstate freeways, and for various types of conditions. Given the wide range of highway types and conditions, some flexibility can be exercised in the selection of the applicable design standards to be used for a particular road. For any type of highway, the design should strive for the highest practical level of performance, within economic and environmental constraints, to allow for a margin of error in the design assumptions, provide additional tolerance for unanticipated conditions, and extend the function and service life of the facility. For any given design standard, minimum numerical values have been established for the designer's use; however, safer design values (above minimum) should be provided whenever it is feasible and economical to do so considering the constraints encountered.

### **Summary of The Preferred Alternative Design Criteria**

The cross-section elements of the proposed design criteria are illustrated in Figures II-5a, b, and c of the FEIS. The proposed roadway design criteria are:

Functional Classification:	Rural Local Road [DEIS proposal is Collector]
Travel Lanes:	2.7 m (9 feet) throughout [DEIS proposal is 3.0 meter (10 feet) for reconstruction areas and 2.7 m for rehabilitation areas]
Shoulders:	0.6 m (2 feet) [same as DEIS proposal]
Structural Section:	150 mm (6 inches) maximum thickness for rehabilitation areas and 250 mm (10 inches) maximum thickness for reconstruction areas [DEIS proposal is 50-100 mm (2-4 inches) thickness for rehabilitation areas and 250 mm thickness for reconstruction areas]
Foreslopes:	1.0 m (3 feet) for reconstruction areas, 0.6 m (2 feet) for rehabilitation areas [DEIS proposal is 1.0 m (3 feet) for both reconstruction and rehabilitation areas]
Ditches:	0.6 to 1.2 m (2 to 4 feet) past the foreslope for graded ditch, or 0.6 to 1.2 m (2 to 4 feet) past the roadway shoulder for paved ditch in reconstruction areas, and variable (no minimum) beyond foreslope in rehabilitation areas [DEIS proposal is 1.2 m (4 feet) past the foreslope for graded ditch; same for paved ditch]
Design Speed*:	Ranges from 30 km/h (19 mph) to 50 km/h (31 mph) (with exceptions at switchbacks to 20 km/h (13 mph) [DEIS proposal ranges from 40 km/h (25 mph) to 60 km/h (37 mph) (with exceptions at switchbacks to 23 km/h (14 mph)]
Switchback Radius:	12 m (40 feet) [DEIS proposal is 15 m (50 feet)]
Design Vehicle:	Class C Motorhome with 5.2 m (17 feet) wheelbase and 2.4 m (8 feet) width [DEIS proposal Standard SU Vehicle with 6.1 m (20 feet) wheelbase and 2.6 m (8.5 feet) width]

Superelevation:	6 percent maximum [same as DEIS proposal]
Crown:	2 percent [same as DEIS proposal]
Maximum Grade:	9 percent [same as DEIS proposal]
Clear Zone	2 meters (6.6 feet) [same as DEIS proposal]
Offset to Barrier or Curb:	0.6 m (2 feet) from edge of shoulder, minimum 3.9 m (13 feet) from centerline [DEIS proposal 0.6 m (2 feet) from edge of shoulder, except 0.3 m (1 foot) from edge of shoulder in “Georgetown Switchbacks” section]
Curve Widening:	Based on off-tracking of the Class C Motorhome design vehicle outside the traveled way [DEIS proposal is based on off-tracking of the SU design vehicle]

\*Design speed determines horizontal and vertical curvature, and stopping sight distance.

### **Functional Classification**

Roads are grouped for transportation planning purposes into different functional classes according to the character of service they provide. In the DEIS, the functional classification for the Guanella Pass Road was designated as a rural minor collector since it is a transportation link within each County, and one of few public roads that connect Park and Clear Creek Counties with other parts of the State. The road primarily provides access to numerous destinations within the Pike and Arapaho National Forests from US 285 and I-70. A frequent comment received on the DEIS was that the route should not become a major link or encourage through traffic, but instead should only accommodate the current pattern of use, which for the majority of traffic is to a particular destination along the road and then return the same way. Discussions with the local agencies and additional analysis by FHWA indicated that because of the current and intended use of Guanella Pass Road it is better classified as a rural local road than a rural collector road as it was in the DEIS. It is not intended to be a link between two major arterial routes (I-70 and US 285) or to carry substantial commercial traffic.

Rural local roads emphasize the land access function, as opposed to through movement. The rural local road system provides access to land adjacent to a collector network and serves travel over a relatively short distance. The rural local road system constitutes all rural roads not classified as principal arterials, minor arterials, or collector roads. The functional classification and average trip length are important considerations in selecting design speeds. The higher the functional classification and the longer the trip, the greater the desire for expeditious movement, and vice versa.

The design criteria for local roads is lower than for the collector classification, and the change in functional classification allows greater flexibility in the selection of a lower design speed and a narrower roadway, which would more closely match the existing road. A caveat to this change is that the Counties and the Forest Service will need to manage the road corridor for local access, and for limited through traffic or commercial traffic. Otherwise, the lower design criteria may not be adequate for traffic operations or safety.

## **Design Traffic Volume**

After Functional Classification, the single factor that most influences the determination of design criteria is the traffic volume, generally measured as the volume per day in both directions of travel.

The current traffic volume varies along the route; the highest traffic volume is at the north end of the route near Georgetown, and the traffic volume decreases to 50 percent at the pass, and then it decreases to 25 percent south of the pass, and from there it increases toward Grant with 65 percent of the route and traffic volume. The current annual average daily traffic (AADT or ADT), averaged over the entire length of the route, is 182 and is expected to grow at a 1.5 percent annual rate even if no improvements are made. The actual future traffic that will use the facility is uncertain and the actual traffic may be increasing at a higher or lower rate than is estimated, but is likely to increase at a similar rate as the population of the greater Denver area.

Additional traffic growth is anticipated if the route is improved, depending on the extent of improvement (primarily the extent of additional paving). Under the DEIS alternatives, if the entire route were paved a 40 percent to 80 percent additional increase over the No-Action Alternative is projected. The additional traffic projected for the Preferred Alternative is 20 percent greater than for the No-Action Alternative.

A major investment in a highway facility should consider anticipated future traffic volume in order to avoid wasting time and money on improvements that soon may become inadequate or obsolete.

For reconstruction projects the anticipated future traffic demand, usually based on a 20-year projection, is considered for determining design standards. For rehabilitation projects there is usually a shorter anticipated service life of the improvements, and these types of projects may be developed on the basis of a shorter design period. For the proposed Preferred Alternative, which consists of a combination of reconstruction and rehabilitation type improvements, using a 15-year to 20-year projection for design traffic volume is appropriate.

The high seasonal use of the Guanella Pass Road is also a strong consideration in the selection of appropriate design criteria. The projected seasonal average daily traffic (SADT) is listed in the DEIS (Table III-1) although it is not strictly used as the basis of design standards. The high seasonal traffic occurs from June through September and is approximately double the ADT. The weekend use accounts for over half of the total traffic, particularly the summer weekend traffic which is about 3.5 times the ADT. The design of certain elements, such as intersections, should consider the high seasonal and weekend volumes. During the high traffic volume periods, the road shoulders are anticipated to be heavily used by traffic, which will adversely affect pedestrian and bicycle use during these periods.

## **Design Speed**

For highway design purposes, speed is associated with various terminology including legal speed, running speed, design speed and operating speed. Legal speed is the regulatory posted speed that is intended to *limit* the speeds of vehicles for safety, consistency or other reasons. Absent a legal speed, a percentage of drivers would otherwise travel the road at a faster speed. Running speed is a measure of the *observed* speeds of free-moving vehicles at various locations along the highway, and is often expressed either as the arithmetic mean (50<sup>th</sup> percentile, which approximates the average), or as the 85<sup>th</sup> percentile (which approximates a reasonable majority) of the observations. A design speed is a theoretically safe and highest *constant* speed that can be maintained throughout the entire length of a specified section of highway, based on the most limiting geometric feature(s)

of the roadway design within that section, and absent other limiting conditions (traffic, weather, surface, regulatory, environmental). A design speed may be lower or higher than the observed running speeds, depending on the capabilities of the drivers, vehicles, roadway surface, weather, speed limitations, etc. Operating speed is a theoretically safe and highest *overall* speed that can be attained on the highway (including various sections of differing design speeds) under favorable weather conditions and under the prevailing traffic conditions.

For new construction projects or reconstruction, rehabilitation, and resurfacing (3R) projects, the design speed should meet drivers' expectation for the type and character of the highway. Where a difficult condition (terrain or other physical condition) is obvious, drivers are more apt to conform to lower speed operation than where there is no apparent need. The design speed should be consistent with the typical running speed observed for a majority (85<sup>th</sup> percentile) of drivers. Once the appropriate design speed is selected, it is important to develop all of the pertinent features of the roadway in relation to the design speed to obtain a balanced design. A benefit of engineering a road utilizing a specific design speed is to provide a consistent geometry within each individual curve and between the curves. This is done by representing the roadway centerline by a series of circular arcs of various radii with interconnecting tangents (straight sections), and through the proper correlation of the superelevation (surface cross slope or banking). Superelevation influences side friction between the vehicle tires and road surface and helps counteract the centrifugal forces of vehicles in curves.

For the Guanella Pass Road, the range of design speeds for the corridor was determined primarily in an attempt to best fit and closely match the existing roadway alignment as much as possible to minimize new impacts. Other lesser considerations were to accommodate the controlling features along the corridor (steep terrain, existing access points, roadside developments, sensitive environmental areas), and accommodate an appropriate range of operating speed that is expected by the majority of drivers. The purpose and need for improvement is not to increase the overall operating speed. The range of design speed of 30 to 50 km/h (19 to 31 mph) has been proposed to best match the existing road and meet the combination of physical limitations of the terrain, current and projected traffic volumes, existing running speeds, driver expectation, safety concerns, and the existing posted speed limits. In the areas proposed for rehabilitation, the primary effect of selecting the design speed is to determine the proper superelevation rates for the resurfacing, and has little or no effect on the other design elements or the physical impacts.

In areas of the Guanella Pass Road that are proposed for reconstruction, the existing road has a number of curves that are much sharper than normal, and the running speed is much lower than the adjacent curves and the posted speed limit. The current road's horizontal alignment is very irregular and inconsistent, with numerous sharp curves intermixed with sections of relatively gentle alignment. It also has a number of sudden crests and dips in the vertical alignment, and steep uphill slopes just adjacent to the roadway around curves, which restrict the driver's ability to see oncoming conditions and react to them. The inconsistent alignment creates sudden limitations in sight distance and speed, and does not conform to driver expectations raised by the adjacent gentler sections, which adversely affects the driver's ability to respond to road conditions. Improving the consistency of the existing roadway involves a combination of softening the sharpest curves and inducing additional curvature in adjacent straighter sections, lowering of the most sudden crests and raising abrupt dips, and extending crests and dips onto adjacent sections of more uniform grade, all of which can only be accomplished by a reconstruction level of improvement. The attempt to provide more consistency is balanced with the competing need to closely match the existing road alignment and to fit other controlling features.

The proposed design speed for Alternative 6 varies along the corridor in response to changes in the terrain, existing road characteristics, and the posted speed limit, with exceptions at the difficult switchbacks. The design speeds for the DEIS alternatives resulted from additional consideration and emphasis placed on a need to address the portion of traffic that is traveling over the entire length of the corridor, consistent with a higher functional classification.

<b>Location</b>	<b>Km post</b>	<b>Design Speed for DEIS Alternatives</b>	<b>Design Speed for Alternative 6</b>
Grant to Falls Hill	1.0 to 8.0	50 km/h (31 mph)	40 km/h (25 mph)
Falls Hill	8.0 to 9.4	40 km/h (25 mph)	30 km/h (19 mph)
Falls Hill to Shelf Road	9.4 to 15.7	60 km/h (37 mph)	50 km/h (31 mph)
Shelf Road to Guanella Pass	15.7 to 22.1	50 km/h (31 mph)	40 km/h (25 mph)
Guanella Pass to Georgetown	22.1 to 39.2	40 km/h (25 mph)	30 km/h (19 mph)

The minimum design speed recommended by AASHTO policy in mountainous terrain is 30 km/hr (19 mph) for ADT less than 400, and 50 km/hr (31 mph) for ADT 400 to 1500. There are no established design criteria for design speeds less than 30 km/h (19 mph). The design speeds proposed for Alternative 6 are between 30 and 50 km/h (19 and 31 mph). This is 10 km/h (6 mph) less than the 40-60 km/h (25-37 mph) design speed for the DEIS build alternatives. The reduction in design speed for Alternative 6 is consistent with the determination that the road better fits a lower functional classification. The change in design speed from 40 to 30 km/hr corresponds to a reduction in the minimum centerline radius for curves from 55 m (180 feet) to 30 m (100 feet). The lower design speed allows a more curvilinear alignment in the proposed reconstruction areas that more closely follows the existing roadway by allowing more closely spaced curves and shorter tangent (straight) sections between the curves. The lower 30 km/h (19 mph) design speed is used for most of the reconstruction segments with the exception of the shelf road area and the area above Duck Lake, both of which are located in areas of fairly uniform alignment. Aside from the difficult switchbacks, there are few curves on the existing road with less than a 55 m overall radius, so this change results in some slight additional curvature of the roadway design, and will likely result in a slight decrease in operating speed in relation to the DEIS alternatives. The change in design speed also results in slight changes in the vertical alignment in relation to the DEIS alternatives. Under the Preferred Alternative, providing more closely spaced curves results in many slight adjustments in the proposed alignment in the reconstruction areas, and results in the addition of a few slight wiggles in the alignment, all of which will allow a slightly closer match with the existing roadway in numerous areas.

There is concern that the overall operating speed will increase, which could influence travelers in selecting the Guanella Pass Road as an alternate route to I-70 or US 285, and encourage additional through traffic. There is also concern that running speeds will increase, which could offset the increase in safety gained by a slightly wider roadway, easing of some of the sharpest curves, and providing additional sight distance in the reconstruction areas. There is also concern that potential higher running speeds will result in increased wildlife mortality. Research has shown that drivers' speeds and operations are largely governed by the physical characteristics of the roadway and roadsides over extended lengths of the highway alignment; specifically, by the topography, the number of curves and extent of curvature, sight distances, and frequency of roadside access points; and also by the weather, the presence of other vehicles, and the speed limitations (either legal or because of control devices). Running speeds may increase slightly as a result of a new roadway surface. The horizontal alignment (which is the primary physical constraint on operating speed) is improved in 9.2 km (5.6 miles) or 24 percent of the overall length. The running speeds for the other 76 percent (18.1 miles) of the route, for which the horizontal alignment is not changed, is not anticipated to increase as a result of these proposed horizontal alignment improvements. The surface conditions, amount of traffic, the posted speed limit, and the level of enforcement are the major factors influencing a possible change in running speed.

Ideally, the design speed should never be selected to be lower than the legal driving speed of the highway. In cases where the design speed of an existing road is less than the legal speed, a higher design speed should be utilized and the substandard elements identified and addressed. Isolated locations where substandard geometric features result in a lower theoretical safe speed than the selected design speed are called exceptions to the design speed. Isolated, reduced legal speed zones are not appropriate for addressing individual substandard features. They would violate the driver's expectations and generate disregard for the reduced legal speed zone signing. Although advance warning signs and advisory speed limits may provide a margin of safety, they may not reduce actual running speed as they are often ignored because they pose no physical constraint.

A caveat with the lower design speed is that the Counties and Georgetown will need to manage running speeds accordingly. Regulatory and warning signs will need to be installed consistent with the design speeds. Pullouts will be provided along the road corridor which can assist in enforcement of the posted speed limit.

### **Roadway Width**

Total roadway (lane and shoulder) width is among the most important cross-section considerations in the safety of a two-lane highway. Wider lanes or shoulders normally result in fewer crashes. For low volume, low speed rural local roads the minimum width consists of 2.7 m (9 feet) travel lanes and 0.6 m (2 feet) shoulders for a total roadway width of 6.6 m (22 feet). This is the width proposed for the Preferred Alternative. This is a reduction from 7.2 m (24 feet) for the DEIS alternatives resulting from the change in functional classification from a rural collector road to a rural local road.

Research on performance of two-lane rural roads is provided in *NCHRP Report 362, Roadway Widths for Low Traffic Volume Roads*. Studies on two-lane rural roads show that inadequate vehicle clearances and edge-of-roadway clearances exist on surfaces less than 6.6 m (22 feet) wide carrying even moderate amounts of traffic. Where volume is such that meeting and passing opposing vehicles is common, an effective width of 6.0 m (20 feet) is considered inadequate. Recreational vehicles are typically 2.4 to 2.6 m (8.0 to 8.5 feet) wide, excluding mirrors, which leaves essentially no room to maneuver within a 2.7 m (9 feet) travel lane. This results in these types of vehicles continuously encroaching into either the oncoming lane or onto the shoulder. On even low-speed facilities, where there is use by recreational (or commercial) vehicles, 3.0 m (10 feet) travel lanes should be provided. The *AASHTO-Geometric Design of Highways and Streets* states: “Where there is appreciable traffic volume, roads with a narrow traveled way and narrow shoulders give poor service, have a relatively higher accident experience, and require frequent and costly maintenance.”

The shoulder on rural roads with narrow travel lanes serves as additional width to permit drivers meeting opposing vehicles to drive on the very edge of the roadway without leaving the surfacing, thus making frequent use of the shoulder itself. In addition to allowing drivers to safely deviate from the travel lane, shoulders provide a variety of other functions. Shoulders provide space to escape potential accidents or reduce their severity, provide additional space for pedestrians and bicyclists, improve sight distance in cut sections provide lateral clearance for signs and guardrails, provide structural lateral support for the surfacing and to reduce edge of surfacing breakup, provide space for maintenance operations such as snow removal and storage. Shoulders also enhance drainage by directing surface runoff and ditch drainage farther from the surfacing, and minimizing seepage adjacent to the roadway which directly reduces pavement breakup. Regardless of width, a shoulder should be continuous. The full benefits of a shoulder are not available unless there is space where a driver can deviate from the travel lane at any point.

The minimum roadway width for local roads is primarily dependent on the design traffic volume, the design speed, and the mix of vehicle size and use. For mountainous terrain such as the Guanella Pass Road, the AASHTO guidelines for lane and shoulder width change when ADT exceeds 600 and/or the design speed exceeds 60 km/h (37 mph). For design ADT less than 600 and low design speeds, the minimum travel lane is 2.7 m (9 feet) and shoulder is 0.6 m (2 feet) for a minimum total roadway width of 6.6 m (22 feet). For design ADT from 600 to 1,500 and low design speed, the minimum travel lane is 3.0 m (10 feet) and the minimum shoulder is 1.5 m (5 feet) for a minimum total roadway width of 9.0 m (30 feet). The higher ADT values would be applicable if the high



seasonal traffic volume were the primary consideration and control in determining the design criteria.

Guidance for design of 3(R) projects is provided in TRB Special Report 214, *Designing Safer Roads: Practices or Resurfacing, Restoration and Rehabilitation*. The report provides minimum standards for lane and shoulder width that are suggested for Federal and State funding for 3(R) projects; however, the FS, CDOT, and FHWA have not formally adopted these standards. For two-lane rural highways with design year volume (ADT) less than 750, running speed under 50 mph, less than 10 percent trucks, and on mountainous terrain, the minimum value (lane and shoulder width) recommended is 10 feet, or 20 feet (6.1 m) total roadway width. On the Guanella Pass Road, the most typical existing roadway width for portions of the project that are considered a viable candidate for rehabilitation type work is 6.6 m (22 feet). It would not be appropriate to reduce these sections to a narrower, substandard width when it is feasible to maintain the current width with rehabilitation type construction. Publication No. FHWA-FLP-91-010, *Design Risk Analysis*, documents that the increase in accident potential resulting from narrowing a two-lane roadway by 0.3 m (1 foot) on either side is 12 percent. On 3(R) projects the design should strive to improve the roadway above absolute minimums, and to provide the highest level of safety possible within existing conditions and constraints. Under the Preferred Alternative approximately 64 percent of the route, or 24.6 km (15.3 miles), is proposed for rehabilitation type improvements to provide a 6.6 m (22 feet) roadway width. Of the remaining 36 percent proposed for reconstruction, the road is so substandard that most of this length would still require reconstruction to obtain even a 6.1 m (20 feet) roadway width. Less than 3 km (2 miles) could be simply rehabilitated to provide a 6.1 m (20 feet) roadway width, with alignment and grade close to minimal standards, surfacing foreslopes, ditches, drainage features and guardrail where needed. It would not be appropriate or safe practice to vary the roadway width in rehabilitation sections from 6.6 m (22 feet) to 6.1 m (20 feet) at numerous locations.

In development of the Preferred Alternative, the width of the proposed improvements has been reduced to the absolute minimum that will achieve the purpose and need. The design has been reduced at the request of the public and the cooperating agencies to the lowest practical minimums within the flexibility and exceptions allowed by current highway policy. Selective narrowing of the roadway to a lesser width, or leaving intermittent portions of the roadway at the current narrow width, does not meet the purpose and need for the project and is considered an unsafe practice, and is not considered an acceptable alternative to the Forest Service, the CDOT or the FHWA.

The proposed reduction in roadway width from 7.2 m (24 feet) to 6.6 m (22 feet) under the Preferred Alternative requires several caveats that must be agreed to by the cooperating agencies in order to assure reasonable safety and effectiveness of the improvements. The narrower roadway width will not safely accommodate a substantial volume of trucks, commercial vehicles, or large recreational vehicles, and the Counties and FS will need to manage corridor development accordingly and not encourage high traffic volumes or a larger proportion of through traffic, large RV's, busses or commercial traffic.

### **Switchback Radius/Design Vehicle**

The Guanella Pass Road has numerous 180-degree switchbacks, the majority of which are located on the north side of the pass, which receives the greatest use. The existing switchbacks range from mild bends with 55 m (180 feet) centerline radius to extremely tight crooks with 4.5 m (15 feet) centerline radius. Most of the existing switchbacks are in the 9 to 12 m (30 to 40 feet) radius range, however. For consistency, and to avoid trapping occasional oversize vehicles at an isolated

switchback location, the sharper switchbacks should be improved to conform to either the minimum design speed radius or to a minimum radius established for the design exceptions for all of the switchbacks on the corridor. The switchbacks are usually located on the steepest grades in the most precipitous terrain, and typically require sudden deceleration in running speed to negotiate. The switchbacks are significant safety hazards within the corridor (in recent years two fatal accidents have occurred at switchback locations); in addition, they create operational and maintenance problems.

The physical characteristics and proportions of the vehicles using the road are primary controls in establishing the road geometry. Design vehicles are selected motor vehicles that represent a designated class of vehicle types that the road is intended to accommodate. For purposes of controlling the geometric design, each design vehicle represents the larger physical dimensions and larger minimum turning radius of almost all vehicles in its class. General classes of vehicle types, and the dimensions for various design vehicles, have been established and accepted for standard practice by AASHTO. In the switchbacks, the alignment of the roadway centerline is described by a 180 degree circular curve of a particular radius. The outermost path of the design vehicle's body while making the sharpest 180 degree turn it can, with a minimal allowance for clearance, represents a controlling dimension of the minimum centerline radius. In other words, the minimum turning circle of the design vehicle must be able to fit within the switchback centerline radius (inside lane of the road). The determination of the switchback design radius is also influenced by the tracking characteristics of the mix of other vehicles (passenger cars and pickup trucks with trailers, occasional permitted single and dual-unit trucks and large construction vehicles) expected to use the road, as well as operational and safety considerations.

An origin-destination (O-D) survey was performed for the Guanella Pass Road project during a single day in 1995 to develop an indication of the mix of vehicles using the road. The O-D data is supplemented by observations of the vehicle usage provided by the cooperating agencies. The frequently observed vehicles range from cars and pickup trucks pulling trailers (travel, horse, recreational equipment, supplies, etc.), various classes of recreational vehicles (some pulling trailers), commercial trucks carrying equipment and supplies to businesses and residences, and commercial trucks involved in construction or repair of both public and private facilities. Oversize, i.e. greater than 6 m (20 feet) overall length, vehicles use the Guanella Pass road on a daily basis. In all engineering work, including highway engineering, the controlling condition for design purposes is a worst case condition that is likely to be experienced at some anticipated frequency during the service life of the facility. The effects of all likely conditions (e.g., for vehicles other than the design vehicle) need to be analyzed and the operational and safety risks considered. Since the Guanella Pass Road is a public road and open to all users, the agencies responsible for making improvements to the road have an obligation to accommodate all likely users of the facility, as described in the purpose and need. The intent of the project is not to create a facility that will intentionally discriminate against specific classifications of users that have a rightful purpose to use the facility. The switchback design criteria should not be established to regulate the type of vehicle use on the highway, but to improve the safety, operation, and maintenance of the road to the maximum extent possible. The benefits of improving the switchbacks will apply to all vehicles using the road.

In the DEIS, the AASHTO standard SU design vehicle was recommended for design purposes because it represents both single-unit trucks and recreational vehicles (motorhomes), and to some extent vehicles pulling trailers, which use the roadway with some frequency (3 to 5 percent or about 10 to 20 vehicles per day on average), especially on the north side of the pass. The existing

switchbacks will not accommodate these type vehicles safely (vehicles must encroach into the oncoming lane). The next smaller standard design vehicle is the passenger car (P design vehicle). The minimum switchback radius of 15 m (50 feet) was proposed in the DEIS to safely and efficiently accommodate the SU design vehicle within its own lane (with some widening for off-tracking), while minimizing impacts of the switchback realignment. The design speed of the 15 m radius switchbacks is 23 km/hr (14 mph). Most single-unit and tractor-trailer trucks and commercial vehicles that use the road are destined to either the Cabin Creek Power Plant or short-term construction sites, and could possibly be accommodated on the road by special permit.

In the Preferred Alternative, a non-AASHTO standard design vehicle is proposed which has a wheelbase shorter than an SU, but longer than a standard passenger car. The recreational vehicles which use the road most frequently are medium size units, less than 9 m (30 feet) in overall length, as the largest size motorhomes are probably discouraged by the existing poor road surface conditions and sharp switchbacks. The smaller and medium size motorhomes are represented by the Class C Motorhome as defined by the recreational vehicle manufacturing industry. This class uses a full size van cab and modified chassis with the living quarters added around the exterior of the cab. This type motorhome typically has up to a 5.2 m (17 foot) wheelbase, which is in between the 6.1 m (20 foot) wheelbase defined by the AASHTO SU design vehicle and the 3.4 m (11 feet) wheelbase of the AASHTO P design vehicle. A representative motorhome of this size class is the “Minnie-Winnie” manufactured by Winnebago. The proposed design vehicle, with a 5.2 m (17 foot) wheelbase, would be used during the design process to represent all oversize (over 6 m (20 foot) overall length) vehicles that the road should safely accommodate. Using the 5.2 m wheelbase for the design vehicle, the minimum switchback radius can be reduced from 15 m to 12 m (40 feet), which allows the proposed alignment to fit much closer to the existing roadway. The 12 m design radius also just accommodates a passenger car-trailer combination standard design vehicle (P/T) with similar widening for off-tracking of the trailer as for the Class C Motorhome. The design speed of the 12 m radius is 20 km/hr (13 mph). Since most of the switchbacks are proposed to be “belled” out using retaining walls, this change from 15 m to 12 m radius results in reduction of these retaining wall heights by at least one-half, and eliminates the need for retaining walls in several locations.

Further reduction of the switchback radius would require substantial additional roadway widening for tracking of a P/T passenger car-trailer standard design vehicle through the switchback, which would then become a control in the switchback design, and would offset any benefit from the further reduction of centerline radius. For example, using a P/T standard design vehicle would allow the centerline radius to be reduced to 9 m (30 feet), but the roadway width through the switchback would need to be enlarged to 15 m (50 feet) wide to accommodate the off-tracking, which would negate any reduction of impact from the smaller centerline radius. Some longer wheelbase vehicles such as an SU vehicle or bus would have to make multiple-point maneuvers by backing up and going forward several times to negotiate the 9 m radius switchbacks, which would be a very unsafe situation. A further reduction in the switchback radius (e.g. from 12 m radius to 9 m radius) would have little benefit, if any, in terms of reduction of the overall physical impacts of construction, and would leave the operational and safety problems of the existing sharp switchbacks unaddressed. From a vehicle size management standpoint, a further reduction in the switchback design would result in many more vehicles (all vehicles over 6 m (20 feet) in length), needing to be managed by special permit, and would significantly add to the Counties’ burden of administering the proposed permit system.

Under the Preferred Alternative, the larger size SU, tractor-trailer, and other similar oversize vehicles can still be accommodated through the reduced radius switchbacks, but only by encroaching into the oncoming lane. For example, a 15.2 m (50 feet) long tractor-trailer (WB-12 design vehicle) will

require the entire roadway width (travel lanes and shoulders for both directions) to negotiate the 12 m radius switchback design. If the oversize and commercial vehicles are restricted and allowed only by special permits managed by the County, the safety issue of this change can be mitigated. For practical purposes, any vehicle size restriction should be based on overall length instead of actual wheelbase, although wheelbase is the primary dimension controlling the design. In order to be inclusive of essentially all vehicles with larger wheelbase than the design vehicle, a 7.6 m (25 feet) overall vehicle length should be used as the minimum length for vehicles requiring a special permit. Some vehicles (especially motorhomes) with overall length up to 9.0 m (30 feet) will possess a 5.2 m (17 feet) wheelbase and could safely negotiate the proposed switchback design; however, these vehicles would still be included in the 7.6 m (25 feet) minimum size limit and, therefore, need to be managed under special permit.

### **Maximum Grades**

Design criteria for maximum grades are determined by the operating speed of vehicles and by operational, weather, safety, and maintenance considerations. For rural collector roads, the AASHTO criteria allows a maximum grade of 11 percent for a design speed of 40 km/h (25 mph), which corresponds to the DEIS alternatives. For rural local roads, maximum grades of 14% to 16% can usually accommodate the proposed design speeds of 30 to 50 km/h (19-31 mph) respectively. However, in the case of the Guanella Pass Road, the operational, weather, safety, and maintenance considerations necessitate limiting the maximum design grade to approximately 9 percent, as described below.

Steep grades have an adverse effect on stopping distance and vehicle operation and control, especially when the surface is loose, wet, snow packed, or icy. In combination with sharp horizontal curves, steep grades greatly increase accident potential. During snow packed and icy conditions, vehicles have great difficulty maintaining traction or control when grades exceed 10 percent and this is exacerbated by the superelevation (banking) on curves. In the switchback locations, where sudden decelerations are typical approaching the sharp curves, the maximum grade should not exceed 4 percent or 5 percent. For gravel or alternative stabilized gravel surfaces, the rate of gravel loss and generation of washboard condition greatly increases when grades exceed 6 percent. For grades over 9 percent, the rate of gravel loss and severe washboard condition becomes so great as to make maintenance of aggregate surfacing impractical. The sections of the Guanella Pass Road that are unpaved and currently have grades over 9 percent exhibit severe washboard condition and loss of surface material. Where practical in the reconstruction segments, the sections of steeper grade are proposed to be flattened to 9 percent. This is done by a combination of lowering the crests and raising the adjacent dips, or in combination with minor realignment to lengthen the road.

### **Roadside Design**

Additional guidance for design of features adjacent to the roadway (beyond the shoulders) is provided by the *Roadside Design Guide, January 1996*, published by AASHTO. The design of clear zones, roadside slopes, ditches, retaining walls, barriers (e.g., guardrail), roadside appurtenances (e.g., signs, culvert inlets, etc.), and other roadside features should be consistent with this criteria to provide a forgiving roadside with associated safety benefits. The design of most roadside features is done during the final design phase, following the environmental review process and after a decision is made regarding selection of a preferred alternative. The potential reductions in the footprint of the build alternatives that are discussed in the DEIS in **Section II.3: Possible Further Roadway Cross-Section Reductions** are incorporated in the Preferred Alternative. Some further

reductions of the footprint at certain site-specific locations may be possible during the final design process with minor adjustments to the alignment, grade, slopes, ditches, and retaining walls.

### **Need for Reconstruction versus Rehabilitation in Designated Areas**

The Guanella Pass Road was initially constructed without incorporation of currently accepted engineering practices in many locations, and is an accumulation of various maintenance and construction efforts by various entities that were intended to address localized site and field conditions encountered in the past, and did not consider the corridor as a whole. Due to the serious roadway deficiencies located in many areas of the route, a conventional 3(R) type project staying totally within the existing prism for the entire length of the route would not provide reasonably consistent or minimum geometric standards, adequate roadway structure, safety enhancement, service life, or maintenance capabilities. The 3(R)-only concept does not consistently utilize any established guidelines for the geometric design, or achieve improvement of the roadway to some appropriate and consistent standard. The FHWA, FS, and CDOT do not believe that 3(R) improvements alone constitute a reasonable alternative for this route. These agencies believe that making such limited improvements in areas where reconstruction is warranted would create an unsafe condition by giving drivers false impressions and unrealistic expectations of the roadway condition and safety in many locations. Also, there are certain locations where guardrail is desired for safety enhancement but there is currently insufficient platform width available for proper installation unless the road is widened by reconstruction. A 3(R) proposal would not correct the narrow roadway width and substandard horizontal (changes in direction) and vertical (crests and dips) curves in numerous locations. Such a proposal would not address the purpose and need for improvements in these locations, and would leave numerous width transitions along the existing narrow road, which would then become even more potentially hazardous locations, decreasing the overall safety of the road. A simple resurfacing project would not correct any of the problems associated with the narrow road and the sections of poor alignment, and would likely result in an increase in operating speed without improving safety.

Many portions of the route, however, have far fewer, or less serious, deficiencies and are fairly close to meeting the criteria for a candidate 3(R) project (see FEIS **Section II.B.6: Typical Cross Sections**). The DEIS indicated 50 percent of the length can be rehabilitated under Alternatives 4 or 5 to a roadway width of 6.6 m (22 feet). The proportion of the route that falls within the rehabilitation category is increased by breaking down the DEIS reconstruction segments into more discrete sections. Breaking the route into 36 segments results in about 64 percent of the route that can be rehabilitated (as opposed to 50 percent indicated in the DEIS for Alternative 5). Conversely, 36 percent of the route is not a candidate for 3(R) rehabilitation treatment, primarily because the overall platform width needed to provide at least a 6.6 m (22 foot) roadway width is typically not available in those segments.

The determination of the type of improvement proposed for each segment was based on that segment's overall road width, horizontal and vertical alignment, the nature of the existing cut and fill slopes, and its current condition. The sections identified as the most deficient and in the greatest need of reconstruction include one or more of the following problems:

- numerous substandard or inconsistent geometric features
- insufficient width for design vehicles to safely pass in opposite directions

- limited sight distance
- excessive maintenance costs
- severe environmental degradation
- severe slope stability problems
- insufficient ditch width and drainage problems
- hazardous and steep roadside conditions
- steep roadway gradients

To determine the areas included for rehabilitation versus reconstruction, the width of the existing platform was measured from surveyed cross-sections at 20 meter (66 feet) intervals throughout the length of the route. The sections that measured less than 7.9 meters (26 feet) platform width were grouped, and exceptionally narrow areas identified. The existing roadway horizontal and vertical alignments were compared with the minimum criteria for 30 km/hr design speed, and areas that deviated more than 2 meters (6 feet) horizontally or 1 meter (3 feet) vertically from the minimum standards were also grouped, and the exceptions identified. The exceptionally narrow and substandard areas of the route were evaluated in the field to verify if the extent of deficiencies necessitated reconstruction, and the remaining candidate areas for rehabilitation were evaluated to determine if the operational, safety and maintenance conditions could be adequately addressed by a 3(R) approach. The areas identified for reconstruction were evaluated as either being predominantly light reconstruction or full reconstruction (see FEIS **Chapter II.D.4e: Typical Cross Sections**) and the resulting areas grouped into 36 segments. Table II-3 of the FEIS summarizes the improvements by segment for the Preferred Alternative. Figure II-5 of the FEIS shows the mix of improvement work for the Preferred Alternative and for the DEIS alternatives. Each of the segments is discussed in detail below.

## **Proposed Improvements by Segment**

Within the segments proposed for rehabilitation type improvement, there may exist localized areas (less than 30 meters or 100 feet) that are particularly narrow but which have not been identified during the preliminary design process as needing other than rehabilitation type improvements. If specific locations are identified during the final design process which need more than rehabilitation level of improvement to provide the proposed 6.6 meters (22 feet) of roadway width, such locations (if any) will be evaluated and treated individually, either as an exception to the proposed roadway width standard, or as a spot repair for minor widening. Spot repairs, if necessary to provide minor widening, may consist of a short (less than 30 meters or 100 feet) length of grading for a new slope or a short section of retaining wall.

### **Grant**

The 0.77 kilometer (0.48 mile) segment of the route from Grant to near Half Mile Gulch is located adjacent to the Geneva Creek floodplain and runs parallel to the creek along its east bank. The existing roadway generally follows the gradient of the creek with grades averaging less than 3 percent. The roadway is typically 6.6 meters (22 feet) wide with surfacing consisting of a conventional asphalt chip seal with 10 mm (3/8 inch) maximum size aggregate.

Under the Preferred Alternative, this segment of the road would be rehabilitated. The new roadway surfacing would be asphalt or asphalt with a chip seal. Several additional culverts would be installed to improve drainage. The typical width of disturbance would be 8 meters (26 feet).

### **Geneva Canyon**

The 5.23 kilometer (3.25 mile) segment of the route from near Half Mile Gulch to just north of the Tumbling River Ranch (beginning of pavement) is generally located adjacent to the Geneva Creek flood plain and runs parallel to the creek along its east bank. The existing road generally follows the gradient of the creek with grades averaging less than 3 percent. The existing surfacing is gravel/dirt.

Under the Preferred Alternative, the existing roadway would be rehabilitated with 150 mm (6 inches) of gravel. Several sections of substandard roadway geometry (sharp curves and abrupt crests/dips at Stations 2+000, 4+150, and 6+800) would not be improved but would be identified with warning signing. There are also several areas where the existing roadway elevation is at or below the 50-year flood plain elevation which will continue to be subject to periodic inundation by Geneva Creek. At these locations the roadway grade would be raised 150 mm (6 inches) for subgrade repair. The existing roadway varies from 6.0 to 6.6 meters (20 to 22 feet) in width and, with possibly one or two exceptions in the vicinity of 3+500 to 3+640, could be rehabilitated and resurfaced to a 6.6 meters width. Cut walls are proposed for the two exceptions. The total combined length of these cut walls is 130 meters (427 feet) with an average height of 1.2 meters (4 feet). Additional culverts would be installed to improve drainage; however, many existing drainage problems would not be addressed under the Preferred Alternative because the existing ditches and roadway foreslopes are narrow or non-existent, and widening of the existing ditches would require reconstruction type improvements. The stream bank is very close to the roadway in several locations. The steep bank and stream flow may be considered a hazard adjacent to the roadway, but the slope would typically remain unprotected since there is insufficient existing width to install guardrail. Short sections (15 meter or 50 feet) of stream bank stabilization such as rock riprap may be installed at several locations to protect the existing roadway embankment from erosion of the stream and to help restore the stream's natural state. A gravel berm or some form of curb may be placed at selected locations along the roadway to help retain gravel on the road and minimize migration of gravel into the stream. The typical width of disturbance would be 8 to 9 meters (26 to 30 feet).

### **Falls Hill Segment A**

The 1.10 kilometer (0.68 mile) segment from just north of Tumbling River Ranch to the base of Falls Hill is adjacent to Geneva Creek and crosses Scott Gomer Creek. The average grade through this area is 7 percent. The existing roadway is 6.6 meters (22 feet) in width with surfacing consisting of asphalt pavement.

Under the Preferred Alternative, this segment of the road would be rehabilitated. The new roadway surfacing would be asphalt or asphalt with a chip seal. Several additional culverts would be installed to improve drainage. The existing culvert at Scott Gomer Creek would be left in place. The typical width of disturbance would be 8 meters (26 feet).

### **Falls Hill Segment B**

The 1.04 kilometer (0.65 mile) segment climbs out of Geneva Canyon through a series of

switchbacks. The average grade through this area is 9 percent. The existing paved roadway varies in width from 6.0 to 6.6 meters (20 to 22 feet) with asphalt pavement. The main deficiency of this segment is the existing unstable cut slopes adjacent to the roadway. The existing cut slopes are 15 to 20 meters (50 to 65 feet) high and have been oversteepened and are unstable. The unstable cut slopes contribute large rockfall into the ditches, exacerbating the drainage problems.

Under the Preferred Alternative, this segment of the road would undergo full reconstruction to repair the unstable slopes. Cut side walls, approximately 3 to 6 meters (10 to 20 feet) high and approximately 170 meters (558 feet) long, are proposed at the two worst oversteepened slopes (e.g., where concrete blocks are now and above the upper switchback) to allow backfilling behind the wall with a flatter slope angle, topsoil placement, and revegetation of the existing slopes. Other cut slopes between the upper switchback and the top of Falls Hill would be laid back at a flatter slope to promote revegetation. Two sections of low (2 to 3 meter or 6 to 10 feet) mechanically stabilized embankment (MSE) fill side wall, 2 to 3 meters (6 to 10 feet) in height and totaling 175 meters (574 feet) in length, are proposed to retain the fill slope at the lower switchback. Another low MSE wall is proposed to retain the fill slope for a section of the road just above the upper switchback. This MSE wall is approximately 100 meters (328 feet) in length. The reconstruction will closely follow the existing alignment and grade. The typical width of disturbance in areas where the existing cut slopes are reconstructed would be 30 meters (100 feet). Extensive revegetation work including topsoil, native seed, mulch, and native container stock (trees and shrubs) will be provided on the stabilized slopes. The new roadway surfacing would be asphalt or asphalt with a chip seal. Several additional culverts would be installed to improve drainage. Enlargement of an existing pullout near the upper switchback at the waterfalls of Scott Gomer Creek is proposed to provide a paved pullout for 6-8 cars. There are high steep fill slopes adjacent to the existing road which are especially hazardous near the top of the switchbacks. This is also an area of sharp curves and inconsistent geometry. The existing guardrail will be replaced and extended. A total length of 535 meters (1,755 feet) of guardrail is proposed for this segment. Approximately 380 meters (1,247 feet) of this length is replacing existing guardrail and the remaining 155 meters (508 feet) will be new sections of guardrail along this segment.

### **Geneva Park**

The 7.00 kilometer (4.35 mile) segment of the route from the top of the Falls Hill area to the upper switchback at the end of Geneva Park (existing end of pavement) generally follows along the east bank of Geneva and Duck Creeks, which form a relatively broad and flat valley in this area. The existing roadway generally follows the gradient of the creeks, with average grades of less than 3.5 percent. There are no high, steep fill slopes adjacent to the existing road that are especially hazardous. There is one section of inconsistent geometry at Station 13+300 which will need to be identified with warning signs. The existing roadway has a consistent 6.6-meter (22 feet) paved width.

Under the Preferred Alternative, the segment would be rehabilitated and resurfaced to 6.6-meter (22 feet) width with asphalt pavement or asphalt pavement with a chip seal. The typical width of disturbance would be 8-9 meters. Most existing drainage problems would be addressed with additional culvert pipes and minor reshaping of the existing ditches. The existing ditches and foreslopes are consistently slightly narrow, but are closer to conformance with the proposed typical section than in other portions of the route. Most existing slopes are relatively stable, so that only a minor amount of slope repair and revegetation is proposed. The existing parking area at Abyss Trailhead (Station 9+300) is proposed to be enlarged with a new paved parking lot for approximately



40 vehicles (separated from the road by an earth berm), and additional restrooms are proposed by the FS.

### **Shelf Road - Park County**

The 1.66 kilometer (1.03 mile) segment from Geneva Park to the Park County line (Station 17+800) is an area where the existing road was cut into the steep and rocky hillside forming a shelf in the slope. This segment has numerous problems and deficiencies. Much of the maintenance efforts of Park County are spent on this segment of the road. The roadway has a gravel/dirt surface varying from less than 4.8 meters (16 feet) to more than 7.2 meters (24 feet) in width, and is typically 5.5 meters (18 feet) wide. This segment of the road has an average grade of 7 percent with long stretches at over 8 percent, which contributes to the loss of gravel and sediment from the road and requires additional maintenance effort and expense. Throughout this area are high (15 to 30 meters or 50 to 100 feet), unstable cut slopes, and large boulders frequently fall onto the roadway. The unstable cut slopes produce extensive rockfall into the ditches and onto the roadway, exacerbating the drainage problems and creating safety hazards. The existing drainage structures are few and too small to accommodate predicted storms. Springs in the existing slopes from 16+300 to 16+600 create drainage problems throughout the year and create ice flows across the road in winter.

Under the Preferred Alternative, this segment of the road would undergo full reconstruction to provide a consistent 6.6 meter (22 feet) roadway width and to repair and stabilize the existing unstable cut slopes to the extent possible. The slope stabilization may consist of scaling loose, unstable rocks and boulders, installing reinforcing rods into the cut to anchor the slope, installing steel reinforcing dowels and placing concrete wedges below unstable boulders, backfilling of the lower portion of existing oversteepened slopes, and use of vegetation to hold the soil surrounding the rocks and boulders and to help stabilize the slopes. A wider (3 meter or 10 feet overall width) rockfall ditch is proposed throughout this segment to mitigate and collect anticipated rockfall that will likely continue despite the stabilization efforts (a 50 percent reduction in rockfall is a reasonable goal). The wider ditch will accommodate equipment such as a front loader to more easily clean up the ditch. Because of anticipated continued rockfall, any retaining wall structures built into the cut slope would likely become damaged or destroyed, and are not proposed. Because the existing slopes are very steep, laying back the existing cut slopes on a flatter slope is not practical. Minimal excavation of the cut slopes is proposed. MSE retaining walls are proposed on the downhill side of the road throughout this entire segment to accommodate the wider roadway and ditch. The average height of the MSE walls would be approximately 3 meters (10 feet). The reconstruction will closely follow the existing alignment and grade.

The typical width of disturbance in this area would be 15 meters (50 feet). Extensive revegetation work including placement of topsoil, native seed, mulch, and container stock (trees and shrubs) will be provided on the stabilized slopes. The new roadway surfacing would be asphalt or asphalt with a chip seal. Several additional culverts would be installed to improve drainage, and subsurface drainage features installed in the area of the springs. There are high, steep, and very hazardous fill slopes adjacent to the existing road throughout this segment. The existing guardrail will be replaced and extended, and additional guardrail added throughout the segment. An approximate total length of 1610 meters (5282 feet) of guardrail is proposed for this segment. Approximately 488 meters (1601 feet) of this length is replacing existing guardrail and the remaining 1122 meters (3681 feet) will be new guardrail along this segment. An existing pullout at the switchback near the start of this

segment (16+230) is proposed to be formalized with a paved pullout for 4-6 cars.

### **Shelf Road - Clear Creek County**

The 1.34 kilometer (0.83 mile) segment from the Clear Creek County Line (just south of the entrance to the abandoned ski area [Station 17+800]) to the intersection to the private residence at Duck Lake has very similar problems and deficiencies as the previous segment. The roadway has a gravel/dirt surface typically 5.5 meters (18 feet) wide. This segment of the road has an average grade of 7 percent with long stretches at over 8 percent, which contribute to the loss of gravel and sediment from the road and requires additional maintenance. Within the segment from 17+800 to 18+700 are high (10 to 20 meters or 33 to 66 feet), unstable cut slopes, and large boulders frequently fall onto the roadway in this area. The unstable cut slopes produce extensive rockfall into the ditches and onto the roadway, exacerbating the drainage problems and creating safety hazards. The existing drainage ditches and culverts are undersized and infrequently located.

Under the Preferred Alternative, this segment of the road would undergo full reconstruction to provide a consistent 6.6 meter (22 feet) roadway width and to repair and stabilize the existing unstable cut slopes to the extent possible, similarly as described for the previous segment. A wider (3 meter or 10 feet overall width) rockfall ditch is proposed from 17+800 to 18+650 to mitigate and collect the anticipated rockfall. Minimal excavation of the cut slopes is proposed. MSE retaining walls are proposed on the downhill side of the road for 1015 meters (3,330 feet) in this area to accommodate the wider roadway and ditch. The average height of the MSE walls would be approximately 3.1 meters (10 feet). The reconstruction will closely follow the existing alignment and grade, except from 18+900 to 19+100 where the road would be shifted to eliminate two crossings of Duck Creek and allow restoration of the stream to its approximate original channel location. The typical width of disturbance in this segment would be 15 meters (50 feet). Extensive revegetation with topsoil, seed, mulch, and container stock (trees and shrubs) will be provided on the stabilized slopes. The new roadway surfacing would be asphalt or asphalt with a chip seal. Several additional culverts would be installed to improve drainage. There are high, steep fill slopes adjacent to the existing road from 17+800 to 18+800, which are very hazardous. New sections of guardrail are proposed in this area for a total length of 1055 meters (3,461 feet).

### **Duck Lake Segment A**

The 0.30 kilometer (0.19 mile) segment of the route is located from the entrance to Duck Lake to a sharp curve to the east of Duck Lake. The overall gradient of the road is 5 percent with the lower section approximately 8 percent grade. The existing surfacing is gravel/dirt. The existing roadway is approximately 6.6 meters (22 feet) width.

Under the Preferred Alternative, this segment would be rehabilitated and resurfaced to 6.6 meters width with 150 mm (6 inches) gravel or an alternative stabilized gravel surfacing type. A remnant of abandoned roadway would be regraded to natural contours at 19+400. Additional culverts would be installed to improve drainage. The typical width of disturbance would be 9 meters (30 feet).

### **Duck Lake Segment B**

The 0.09 kilometer (0.06 mile) segment of the route is located at a sharp curve east of Duck Lake.

The overall gradient of the road is 9 percent grade. The existing surfacing is gravel/dirt. The existing roadway varies from 6.0 to 6.6 meters (20 to 22 feet) width. There is one exceptionally sharp curve at 19+500 that is inconsistent with the adjacent alignment in the area. The existing cut slopes in the vicinity of 19+500 to 19+550 are oversteepened and barren of vegetation.

Under the Preferred Alternative, this segment would undergo full reconstruction to 6.6 meters width with gravel or an alternative stabilized gravel surfacing type. The sharp curve at 19+500 would be improved with a smoother curve over a distance of 90 meters (300 feet), and the existing oversteepened cut slope would be backfilled with a flatter slope to promote revegetation. Additional culverts would be installed to improve drainage. The typical width of disturbance would be approximately 18 to 24 meters (60 to 80 feet).

### **Duck Lake Segment C**

The 0.55 kilometer (0.34 mile) segment of the route is located from the sharp curve east of Duck Lake to a point above Duck Lake. The overall gradient of the road is over 8 percent. The existing surfacing is gravel/dirt. The existing roadway is 6.6 meters (22 feet) width.

Under the Preferred Alternative, this segment would be rehabilitated and resurfaced to a 6.6 meters width with 150 mm (6 inches) gravel or an alternative stabilized gravel surfacing type. Additional culverts would be installed to improve drainage. The typical width of disturbance would be 9 meters (30 feet). A short section of new guardrail (10 meters or 33 feet) is proposed for this segment.

### **Above Duck Lake**

The 0.40 kilometer (0.25 mile) segment above Duck Lake is narrower than adjacent segments, and there is insufficient width available for a rehabilitation type level of improvement. The roadway has a gravel/dirt surface that is typically 5.5 meters (18 feet) wide. This segment of the road has an average grade of 8 percent with the lower section approximately 9 percent grade. Throughout the segment are steep and frequently unstable cut slopes, 9 to 12 meters (30 to 40 feet) height. The unstable cut slopes produce slough into the ditches and onto the roadway, causing drainage and maintenance problems. The existing drainage ditches and structures are also inadequate.

Under the Preferred Alternative, this segment of road would undergo light reconstruction to provide a consistent 6.6 meter (22 feet) roadway width and to repair and stabilize the existing unstable cut slopes to the extent possible, using some of the same techniques as for the Shelf Road segment. The light reconstruction would closely follow the existing alignment and grade with minimal (if any) excavation of the cut slopes. MSE retaining walls are proposed on the downhill side of the road for the entire length of this segment to accommodate the wider roadway. The approximate average height of the MSE walls would be 1.8 meters (6 feet). Extensive revegetation work including placement of topsoil, native seed, mulch, and container stock (native trees and shrubs) will be provided on the stabilized slopes. The new roadway surfacing would be gravel or an alternative stabilized gravel surfacing type. Several additional culverts would be installed to improve drainage. The typical width of disturbance in this segment would be 12 meters (40 feet). Guardrail is proposed for the entire length of this segment.

### **Above Duck Lake to Pass**

The 1.39 kilometer (0.86 mile) segment of the route climbs to the top of Guanella Pass with an

overall grade of 5 percent and some stretches at over 7 percent. The terrain adjacent the road is relatively gentle with 1:4 (vertical:horizontal) slopes, and the upper 1 kilometer (0.6 mile) is above timberline. The existing surfacing is gravel/dirt.

Under the Preferred Alternative, the existing roadway would be rehabilitated with 150 mm (6 inches) gravel or an alternative stabilized gravel surfacing type. The existing roadway varies from 6.6 to 7.2 meters (22 to 24 feet) in width and could be rehabilitated and resurfaced to 6.6 meters in width. Additional culverts would be installed to improve drainage. The typical width of disturbance would be 8 to 9 meters (26 to 30 feet). Guardrail is proposed for 140 meters (459 feet) of this segment.

### **Pass to Upper Switchbacks**

The 0.58 kilometer (0.36 mile) segment of the route drops from the top of Guanella Pass with an overall grade of 8 percent and some stretches at over 9 percent. The terrain adjacent the road is relatively gentle with 1:4 (vertical:horizontal) slopes and is above timberline. The existing surfacing is gravel/dirt. A pair of switchbacks at 22+100 was eliminated during a past spot reconstruction by the County, and now serves as an informal overflow parking area for the trailheads at the pass.

Under the Preferred Alternative, the existing roadway would be rehabilitated with 150 mm (6 inches) of gravel or an alternative stabilized gravel surfacing type. The existing roadway varies from 6.6 to 7.2 meters (22 to 24 feet) in width and could be rehabilitated and resurfaced to 6.6 meters width. Additional culverts would be installed to improve drainage. The typical width of disturbance would be 8 to 9 meters (26 to 30 feet). An enlarged and formalized trailhead parking lot with 143 parking spaces and restroom facility is proposed by the FS at the summit of Guanella Pass on the east side of the road (see figure III-13 in the previous DEIS).

### **Upper Switchbacks**

The 1.73-kilometer (1.08 mile) segment north of the pass drops steeply (average grade of 8 percent and some areas at 10 percent) into the South Clear Creek Valley through a series of four switchbacks. The terrain adjacent to the road is very steep with 1:2 (vertical:horizontal) slopes. The existing surfacing is gravel/dirt and roadway widths vary from 4.5 meters (15 feet) to 6.0 meters (20 feet). This segment has the most serious deficiencies of the entire route. The roadway width is frequently too narrow for two vehicles to pass each other safely. Most of the existing fill slopes are very steep and hazardous, and the edge of the road is being lost to erosion. The switchbacks are too sharp to safely accommodate larger passenger vehicles such as pickup trucks or the design vehicle (Class C recreational vehicle). There are many locations where the existing cut slopes are oversteepened (1:1 or steeper), lack vegetation and are subject to erosion, and frequently slough onto the roadway causing drainage problems. There are few existing culverts and runoff continually erodes the narrow ditches and roadway, and often flows over the road causing erosion of the fill slopes.

Under the Preferred Alternative, this segment of road would undergo light reconstruction to provide a consistent roadway width and to stabilize and repair the existing oversteepened cut slopes where possible, using extensive revegetation techniques. The new roadway surfacing would be asphalt or asphalt with a chip seal. The four switchbacks are proposed to be belled out approximately 3 meters (10 feet), except the 3<sup>rd</sup> switchback north of the pass would be belled out approximately 6 meters (20

feet) with a MSE retaining wall. The light reconstruction would closely follow the existing alignment and grade with minimal excavation of the cut slopes. New cut slopes would be laid back at a flatter (1:2) slope in four areas approximately 400 meters (1,300 feet) in length. Seven sections of MSE retaining walls are proposed on the downhill side of the road for 1,445 meters (4,740 feet) through most of this segment to accommodate the wider roadway. The average height of the MSE walls would be approximately 3 meters (10 feet). A cut wall is proposed for a portion of this segment between stations 23+780 and 23+845, 65 meters (213 feet) in length. The average height of the cut wall would be 2.6 meters (9 feet). The typical width of disturbance in this segment would be 12 meters (40 feet) in MSE wall areas and 20 meters (60 feet) in areas of new cut slopes. Extensive revegetation work including placement of topsoil, native seed, mulch, and container stock (native trees and shrubs) will be provided on new constructed slopes. Additional culverts would be installed at frequent intervals (typically every 150 meters or 500 feet) to improve drainage. In the steeper grades the ditch slopes would be armored with stable materials such as rock riprap. There are high, steep fill slopes adjacent to the existing road throughout the segment, which are very hazardous. There is no existing guardrail in this segment. New guardrail is proposed in this segment for a total length of 1,546 meters (5,072 feet).

### **Upper Clear Creek**

The 0.30 kilometer (0.19 mile) segment of the route is located between the upper four switchbacks and the Naylor Creek switchbacks. In this segment the horizontal alignment is fairly uniform with slight curves, although the vertical alignment is consistently steep with an overall grade of 8 percent. The terrain adjacent to the road is marginally traversable with 1:3 slopes. The existing surfacing is gravel/dirt.

Under the Preferred Alternative, the existing roadway would be rehabilitated. The new roadway surfacing would be asphalt or asphalt with a chip seal. The existing roadway varies from 6.6 to 7.2 meters (22 to 24 feet) width and could be rehabilitated and resurfaced to 6.6 meters width. Additional culverts would be installed to improve drainage, and ditches would be armored in areas of steep grades. The typical width of disturbance would be 8 to 9 meters (26 to 30 feet). A small portion of guardrail is proposed for 5 meters (16 feet) of this segment.

### **Naylor Creek**

The 0.88 kilometer (0.55 mile) segment is located from just south of the intersection with the Naylor Lake Road to the intersections with the Guanella Pass Campground. The horizontal alignment is poor and includes two sharp curves (essentially switchbacks) south of the Naylor Lake Road and one switchback at the intersection with the Naylor Lake Road. The overall grade of this segment is 7.5 percent; however the area of sharp curves south of the Naylor Lake Road has an extraordinarily steep grade of 12.5 percent, and the surface is very rough and difficult to maintain. The terrain adjacent to the road is relatively gentle with 1:4 slopes. The existing surfacing is gravel/dirt and the roadway width varies from 5 meters (16 feet) to 6.0 meters (20 feet). The sharp curves and switchback are too sharp to safely accommodate the design vehicle (Class C recreational vehicle). There are many locations where the existing cut slopes are oversteepened (1:1 or steeper), lack vegetation and are subject to erosion, and frequently slough onto the roadway causing drainage problems. There are few existing culverts and runoff continually erodes the narrow ditches and roadway, and often flows over the road causing erosion of the fill slopes.

Under the Preferred Alternative, this segment would undergo full reconstruction to improve the

alignment and grade to the minimum proposed standards for 30 km/h or 19 mph (curve radius of 30 meters or 100 feet and a 9 percent grade). The full reconstruction would closely follow the existing alignment and grade, except at the 3 sharp curves in the area of steepest grade. In the area south of the Naylor Lake Road intersection, new cut slopes would be laid back at a flatter (1:2) slope in several areas totaling approximately 1,000 meters (3,280 feet) length. Reconstruction of the existing cut and fill slopes and laying them back on a flatter slope creates most of the additional impact, but is necessary if vegetation is to be established. One area of MSE retaining wall is proposed on the downhill side of the road, just north of the Naylor Lake Road intersection, to accommodate the wider roadway and avoid encroachment on a tributary of Naylor Creek. The MSE wall would be 50 meters (164 feet) in length and 1 meter (3.3 feet) in average height. Guardrail is proposed in the vicinity of the MSE wall for a length of 46 meters (150 feet). The typical width of disturbance in this segment would be 24 meters (80 feet) south of Naylor Lake Road and 18 meters (60 feet) north of Naylor Lake Road. Extensive revegetation work including placement of topsoil, native seed, mulch, and container stock (native trees and shrubs) will be provided on new slopes. The new roadway surfacing would be asphalt or asphalt with a chip seal. Additional culverts would be installed at frequent intervals (typically every 150 meters or 500 feet) to improve drainage and ditches would be armored in areas of steep grades. The existing round culvert pipe at Naylor Creek would be replaced with an oversized, open bottom (3-sided) arched drainage structure.

### **South Clear Creek (SCC) Segment A**

The 0.34 kilometer (0.21 mile) segment is located just north of the Guanella Pass Campground. The overall grade is 7.5 percent. The terrain adjacent to the road is relatively gentle with 1:5 slopes. The existing surfacing is gravel/dirt. The existing roadway is located in a wetland and additional wetland encroachment is proposed in this area under the Preferred Alternative (under the existing alignment option). The existing roadway is 6.6 meters (22 feet) in width and could be rehabilitated and resurfaced to 6.6 meters width.

Under the Preferred Alternative (existing alignment option) the existing roadway would be rehabilitated with 150 mm (6 inches) gravel or an alternative stabilized gravel surfacing type. Additional culverts would be installed to improve drainage. The typical width of disturbance would be 8 to 9 meters (26 to 30 feet).

### **SCC Segment B**

The 1.86 kilometer (1.16 mile) segment is located north of the Guanella Pass Campground. The existing surfacing is gravel/dirt, and roadway widths vary from 5 meters (16 feet) to 6.0 meters (20 feet). The horizontal and vertical alignments are inconsistent; but could be improved to minimum standards with minor adjustments. The overall grade of this segment is about 4 percent; however, there are several areas with over 8 percent grade. The terrain adjacent to the road is relatively gentle with 1:4 slopes.

Under the Preferred Alternative, the road would undergo full reconstruction to provide the minimum roadway width and improve the alignment and grade to the minimum proposed standards for 30 km/h or 19 mph. The full reconstruction would closely follow the existing alignment and grade. New cut slopes would be laid back at a flatter (1:2) slope. The typical width of disturbance in this segment would be 18 meters (60 feet). Extensive revegetation work including placement of topsoil, native seed, mulch, and container stock (native trees and shrubs) will be provided on newly constructed slopes. The new roadway surfacing would be gravel or an alternative stabilized gravel

surfacing type. Additional culverts would be installed at frequent intervals (typically every 150 meters or 500 feet) to improve drainage.

### **SCC Segment C**

The 0.58 kilometer (0.36 mile) segment is located just south of the southern crossing of South Clear Creek. The overall grade is 5.5 percent, with 100 meter (328 feet) section over 8 percent grade and another 100 meter (328 feet) section over 10 percent grade (from 27+800 to 27+900). With minor grading and subgrade repairs the 10 percent grade section may be reduced to about a 9 percent grade.

The terrain adjacent to the road is relatively gentle with 1:5 slopes. The existing surfacing is gravel/dirt. The existing roadway is located adjacent to the west bank of South Clear Creek close to wetland areas; however, no wetland encroachment is anticipated in this area. The existing roadway is 6.6 meters (22 feet) wide and could be rehabilitated and resurfaced to a 6.6 meter width.

Under the Preferred Alternative, the existing roadway would be rehabilitated with 150 mm (6 inches) of gravel or an alternative stabilized gravel surfacing type. Additional culverts would be installed to improve drainage and ditches would be armored in areas of steep grades. The typical width of disturbance would be 8 to 9 meters (26 to 30 feet).

### **SCC Segment D**

The 1.26 kilometer (0.78 mile) segment is located from the southerly crossing of South Clear Creek to a point south of Clear Lake Campground. The existing surfacing is gravel/dirt, and roadway widths vary from 5 meters (16 feet) to 6.0 meters (20 feet). The horizontal and vertical alignments are inconsistent. The overall grade of this segment is about 5 percent; however there are several areas over 8 percent grade and one area of 12 percent grade (28+400). The terrain adjacent to the road varies from relatively gentle with 1:4 slopes to very steep areas with 1:1 slopes adjacent to the creek. There are several locations where the existing cut slopes are oversteepened (1:1 or steeper), lack vegetation and are subject to erosion, and frequently slough onto the roadway causing drainage problems. There are few existing culverts and runoff continually erodes the narrow ditches and roadway, and often flows over the road causing erosion of the fill slopes adjacent the creek.

Under the Preferred Alternative, the reconstruction (mix of light reconstruction and full reconstruction) would closely follow the existing alignment, and the road would be reconstructed to provide the minimum roadway width and improve the alignment and grade to the minimum proposed standards for 30 km/h or 19 mph and 9 percent grade. New cut slopes would be laid back at a flatter (1:2) slope. Three sections of MSE retaining walls are proposed on the downhill side of the road for 509 meters (1,670 feet) in this segment to accommodate the wider roadway. The average height of the MSE walls would be 4 meters (13 feet). The typical width of disturbance in this segment would be 12 meters (40 feet) in MSE wall areas and 18 meters (60 feet) in areas of new cut slopes. Extensive revegetation work including placement of topsoil, seed, mulch, and container stock (trees and shrubs) will be provided on new constructed slopes. The new roadway surfacing would be asphalt or asphalt with a chip seal. Additional culverts would be installed at frequent intervals (typically every 150 meters or 500 feet) to improve drainage, and ditches would be armored in areas of steep grades. There are several high, steep fill slopes adjacent to the existing road which are very hazardous. There is no existing guardrail. New guardrail is proposed in this segment for a total length of 614 meters (2014 feet).

### **SCC Segment E**

The 0.30 kilometer (0.19 mile) segment is located south of Clear Lake Campground and is adjacent to the west bank of South Clear Creek. The existing surfacing is gravel/dirt. The overall grade is 5 percent, with a short section over 7 percent grade. The terrain adjacent to the road on the uphill side is relatively gentle with 1:4 slopes on the uphill side, but is steep with 1:1 slopes down to South Clear Creek on the downhill side. The existing roadway is 6.6 meters (22 feet) in width and could be rehabilitated and resurfaced to a 6.6 meter width.

Under the Preferred Alternative, the existing roadway would be rehabilitated with 150 mm (6 inches) of gravel or an alternative stabilized gravel surfacing type. Additional culverts would be installed to improve drainage. The typical width of disturbance would be 8 to 9 meters (26 to 30 feet).

### **SCC Segment F**

The 0.52 kilometer (0.32 mile) segment is located from south of Clear Lake Campground to the beginning of pavement at Cabin Creek Power Plant. The existing surfacing is gravel/dirt and roadway widths varying from 5 meters (16 feet) to 6.0 meters (20 feet). The overall grade of this segment is about 5 percent; however there is one area of 13 percent grade (29+800). The terrain adjacent the road is relatively gentle with 1:6 slopes. Near the Clear Lake Campground the road grade is below the floodplain of South Clear Creek and is subject to periodic inundation and constant wet conditions.

Under the Preferred Alternative, this segment is proposed to undergo light reconstruction to raise the grade through this area approximately 1 meter (3 feet). The steep section of 13 percent grade will be reconstructed at a 9 percent grade in conjunction with the grade raise. Aside from this vertical alignment change, the reconstruction (light reconstruction) would closely follow the existing alignment. The typical width of disturbance in this segment would be 15 meters (50 feet). Extensive revegetation with topsoil, seed, mulch, and container stock (trees and shrubs) will be provided on new constructed slopes. The new roadway surfacing would be gravel or an alternative stabilized gravel surfacing type. Additional culverts would be installed to improve drainage.

### **Cabin Creek**

The 2.04 kilometer (1.27 mile) segment of the route from the Cabin Creek power station (existing beginning of pavement) to the north end of Green Lake is immediately adjacent to the power station facilities. The existing road averages less than 3 percent gradient, with two sections of 8 percent grade adjacent to the powerplant. There is one section of inconsistent geometry at Station 30+500 to 30+600, which will need to be identified with warning signs. The existing roadway has a 6.6 meter (22 feet) to 7.2 meter (24 feet) paved width.

Under the Preferred Alternative, this segment would be rehabilitated and resurfaced to 6.6 meter (22 feet) width with asphalt pavement or asphalt pavement with a chip seal. The typical width of disturbance in this segment would be 9 meters (30 feet). There is an area with severe slope stability problems at Station 31+300 to 31+500; however, this slope would be difficult to stabilize. Approximately 1170 meters (3838 feet) of paved ditch with concrete curb is proposed for this segment. Some existing drainage problems would not be addressed under the Preferred Alternative due to the narrow ditch width in most locations. Also, there would remain insufficient width for snow storage needed for winter maintenance. Approximately 40 meters (131 feet) of new guardrail



is proposed for this segment.

### **Clear Lake**

The 0.14 kilometer (0.09 mile) segment is located adjacent to Clear Lake. This location has a narrow (5.5 meters or 18 feet) roadway width and an especially high, steep, and hazardous fill slope adjacent to the roadway just above Clear Lake, at Station 32+300. The grade in this area is 8 percent.

Under the Preferred Alternative, this segment would undergo light reconstruction to achieve a 6.6 meter (22 feet) width with asphalt pavement or asphalt pavement with a chip seal. This entire area is proposed to be widened with MSE retaining wall and protected with additional guardrail for a length of 140 meters (459 feet). There is a slope instability problem at this location; however, this slope would be difficult to stabilize and continued rockfall and raveling of the slope is anticipated to collect in the proposed ditch. Approximately 100 meters (328 feet) of paved ditch with concrete curb is proposed for this segment. Additional rockfall mitigation measures will be evaluated during final design and may be installed on the existing slope if practical. The existing guardrail located on the cut side would be removed, a length of 60 meters (200 feet). The typical width of disturbance for this segment is 12 meters (40 feet). Additional culverts would be installed to improve drainage.

### **Green Lake**

The 1.18 kilometer (0.73 mile) segment of the route from Clear Lake to north of Green Lake averages 3 percent gradient, with a section of 9 percent grade just north of Clear Lake and a section of 8 percent grade north of Green Lake. Along Green Lake the roadway is very close to the steep slopes bordering the lake, which may be considered a hazard. The existing roadway has a 6.6 meter (22 feet) paved width.

Under the Preferred Alternative, this segment would be rehabilitated to a 6.6 meter (22 feet) width with asphalt pavement or asphalt pavement with a chip seal. The typical width of disturbance in this segment would be 9 meters (30 feet). The roadway along Green Lake would remain unprotected under the Preferred Alternative since there is insufficient width to install guardrail. Also, some existing drainage problems would not be addressed under the Preferred Alternative due to the narrow or non-existent ditch width in most locations, and there would remain insufficient width for snow storage needed for winter maintenance. Paved ditches with concrete curb are proposed for approximately 850 meters (2789 feet) of this segment.

### **Switchbacks**

The 0.72 meter (0.45 mile) segment includes two switchbacks and one sharp right-angle curve. The existing paved roadway varies from 4.9 meters (16 feet) to 6.0-meters (20 feet) in width, and is in extremely rough condition. The average grade through this segment is 7.5 percent with several stretches over 8 percent. The upper switchback is tight and requires some bellling out to accommodate the design vehicle. The lower switchback has an adequate radius and the roadway would be widened along its existing alignment. Between the two switchbacks the roadway is very narrow with steep, hazardous dropoffs. This area has a northern exposure and is constantly icy and snow-packed in the winter. There is very little existing ditch to handle the drainage or snow storage.

There are also several areas where the existing alignment is inconsistent. There are several locations where the existing cut slopes are oversteepened (1:1 or steeper), lack vegetation and are subject to erosion, and frequently slough onto the roadway causing drainage problems. There are few existing

culverts, and runoff continually erodes the narrow ditches and roadway, and often flows over the road causing erosion of the fill slopes adjacent the creek.

Under the Preferred Alternative, the road would undergo light reconstruction to achieve a consistent 6.6 meter (22 feet) roadway width and improve the alignment and grade to the minimum proposed standards for 30 km/h or 19 mph. The light reconstruction would closely follow the existing alignment, and the segment would be surfaced with asphalt pavement or asphalt pavement with a chip seal. Four sections of MSE retaining walls are proposed on the downhill side of the road for 454 meters (1,490 feet) in this segment to accommodate the wider roadway. The average height of the MSE walls would be 2.3 meters (7.5 feet). Cut walls are also proposed for approximately 195 meters (640 feet) for this segment. The typical width of disturbance in this segment would be 12 meters (40 feet). Additional culverts would be installed at frequent intervals (typically every 150 meters or 500 feet) to improve drainage. Paved ditches with concrete curb are proposed for 675 meters (2,215 feet) of this segment. There are several high, steep fill slopes adjacent to the existing road which are very hazardous. There is no existing guardrail in this segment. New guardrail is proposed in this segment for a total length of 525 meters (1,722 feet).

### **South Clear Creek**

The 0.38 kilometer (0.24 mile) section of the route from Leavenworth Creek to the upper end of the Georgetown switchbacks (Silverdale area) is generally located adjacent to South Clear Creek on its west bank, and has an average gradient of 6 percent. The existing roadway has a 6.6 meter (22 feet) paved width and a narrow ditch. The segment has numerous sharp curves which will need to be identified with warning signs.

Under the Preferred Alternative, the existing roadway would be rehabilitated and resurfaced to a 6.6 meter (22 feet) width with asphalt pavement or asphalt pavement with a chip seal. The typical width of disturbance would be 8 to 9 meters (26 to 30 feet). Some existing drainage problems would not be addressed due to the narrow ditch width in most locations. Also, there would remain insufficient width for snow storage needed for winter maintenance. The existing ditches and foreslopes are consistently narrow, and grades are relatively steep, and paved ditches with concrete curb are proposed for 225 meters (738 feet). New guardrail is proposed for 35 meters (115 feet) of this segment.

### **Adjacent to Waldorf Road**

The 0.24 kilometer (0.15 mile) segment is located adjacent to Waldorf Road. This location has a narrow (6 meters or 20 feet) roadway width and a narrow or non-existent ditch. The slopes adjacent the downhill side of the road are very high and steep. The grade in this area is over 8 percent. This entire area is proposed to be widened with MSE retaining wall and protected with guardrail.

Under the Preferred Alternative, this segment is proposed to undergo light reconstruction to provide a consistent 6.6 meter (22 feet) roadway width. The light reconstruction would closely follow the existing alignment, and the roadway would be surfaced with asphalt pavement or asphalt pavement with a chip seal. An MSE retaining wall is proposed for the downhill side of the road for 231 meters (758 feet) to accommodate the wider roadway. The approximate average height of the MSE wall would be 2.2 meters (7.5 feet). The typical width of disturbance in this segment would be 12 meters (40 feet). Additional culverts would be installed at frequent intervals to improve drainage. Paved ditches with concrete curb are proposed for most of the length of this segment. There is no existing

guardrail in this segment. New guardrail is proposed in this segment for a total length of 245 meters (804 feet).

### **Silverdale Segment A**

The 1.40 kilometer (0.87 mile) section of the route from Waldorf Road to the Georgetown Reservoir Dam (water storage for Public Service Co.) is located adjacent to South Clear Creek on its west bank. The road has an average gradient of 7 percent, and there are several long sections of 9 percent grade. The existing roadway has a 6.6 meter (22 feet) paved width and a narrow ditch. The two Leavenworth Creek switchbacks are adequate for the design vehicle and would remain as they are. The culvert at Leavenworth Creek (Station 35+280) functions poorly and has erosion and sedimentation problems at the inlet and outlet. The existing embankment slopes have become eroded by the stream in the vicinity of Station 36+100, and the elevation of the road is within the stream flood plain at this location.

Under the Preferred Alternative, the existing roadway would be rehabilitated and resurfaced to a 6.6 meter (22 feet) width with asphalt pavement or asphalt pavement with a chip seal. The typical width of disturbance would be 8 to 9 meters (26 to 30 feet). Some existing drainage problems would not be addressed due to the narrow ditch width in most locations. Also, there would remain insufficient width for snow storage needed for winter maintenance. The existing ditches and foreslopes are consistently narrow and grades are relatively steep, and paved ditches with concrete curb are proposed for 980 meters (3,215 feet) of this segment. The existing culvert at Leavenworth Creek would be replaced with a new culvert and designed to address the erosion and sedimentation problems. The embankment slopes in the vicinity of 36+100 would be protected with rock material (riprap) and the road elevation raised approximately 0.6 m (2 feet). Approximately 210 meters (689 feet) of new guardrail is proposed to be installed where there is sufficient existing width. There are several areas with steep fill slopes adjacent to the roadway with no existing guardrail, notably from Station 35+300 to 35+600; however, these areas would remain unprotected since there is insufficient existing width to install guardrail without requiring work to occur outside of the existing roadway.

### **Silverdale Segment B**

The 0.28 kilometer (0.17 mile) section of the route is located just north of the Georgetown Reservoir Dam and is adjacent to South Clear Creek on its west bank. The road has an overall gradient of 9 percent but the south end of the segment has a steep gradient of 12 percent. The existing roadway has a 19.4 to 6.0 meter (18 to 20 feet) paved width, and a narrow ditch. There is one location with relatively inconsistent geometry (Station 36+400 to Station 36+600), which is also in an area of steep grade. The existing embankment slopes have been eroded by the stream in the vicinity of Station 36+300 to 36+500, and the elevation of the road is within the stream flood plain.

Under the Preferred Alternative, this segment is proposed for light reconstruction to provide a consistent 6.6 meter (22 feet) roadway width. The new roadway surfacing would be asphalt or asphalt with a chip seal. The light reconstruction would closely follow the existing alignment with minimal excavation of the cut slopes. The existing eroded slopes adjacent the stream will be repaired and stabilized with rock material (riprap) and the road elevation raised up to 1 meter (3 feet). A section of retaining guard wall (either simulated stone or with natural stone facing) is proposed on the downhill side of the road for approximately 280 meters (919 feet) in this segment to accommodate the wider roadway. The retaining guard walls would be approximately 2 meters

(6 feet) height, not including the traffic barrier. A cut wall, 20 meters (67 feet) in length is also proposed for this segment. The average height of the proposed cut wall is 2 meters (7 feet). The typical width of disturbance would be 12 meters (40 feet). The section of 12 percent grade would be reconstructed to a flatter grade (approximately 9 percent). Due to the confined conditions and steep ditch grade, paved ditches with concrete curb are proposed for most of the length. Additional culverts would be installed at frequent intervals. There is one short (15 meter or 50 feet) location of existing guardrail adjacent the cut slope at 34+420, which protects a water pipeline, otherwise there is no existing guardrail in this segment. Approximately 20 meters (60 feet) of new guardrail is proposed at this same location.

### **Silverdale Segment C**

The 0.60 kilometer (0.37 mile) section of the route from Waldorf Road to the upper end of the Georgetown switchbacks (Silverdale area) is located adjacent to South Clear Creek on its west bank, and has an average gradient of 6 percent. The existing roadway has a 6.6 meter (22 feet) paved width, and a narrow ditch.

Under the Preferred Alternative, the existing roadway would be rehabilitated and resurfaced to a 6.6 meter (22 feet) width with asphalt pavement or asphalt pavement with a chip seal. The typical width of disturbance would be 9 meters (30 feet). Some existing drainage problems would not be addressed due to the narrow ditch width in most locations. Also, there would remain insufficient width for snow storage needed for winter maintenance. The existing ditches and foreslopes are consistently narrow and grades are relatively steep, and paved ditches with concrete curb are proposed for 220 meters (721 feet) of this segment. There are several areas with steep and hazardous fill slopes adjacent to the roadway. Several existing steep fill slopes adjacent to the roadway from Station 36+600 to 36+750 would remain unprotected since there is insufficient existing width to install guardrail without narrowing the roadway. A cut wall is also proposed for this segment. The cut wall is proposed to be 40 meters (131 feet) in length with an average height of 1.2 meters (4 feet).

### **Georgetown Switchbacks (GS) Segment A**

The 0.89 kilometer (0.55-mile) segment descends steeply from the Silverdale area through the uppermost (4<sup>th</sup>) switchback above Georgetown to a pullout between the 3<sup>rd</sup> and 4<sup>th</sup> switchbacks. The average grade through this area is 8 percent, with a grade of over 9 percent between the 3<sup>rd</sup> and 4<sup>th</sup> switchbacks. The terrain adjacent the road is very steep with 1:2 slopes. This area was the site of a fatal accident within the last 2 years, when a vehicle left the roadway. The existing paved roadway varies in width from 5.5 to 6.0 meters (18 to 20 feet). The existing cut slopes are 4 to 8 meters (13 to 26 feet) high and are oversteepened and have not fully revegetated. There are several locations where the existing cut slopes are oversteepened (1:1 or steeper), lack vegetation and are subject to erosion, and ravel onto the roadway causing drainage problems. Most of the existing fill slopes are very steep and hazardous, and the edge of the road is being lost to erosion. There are few existing culverts and runoff continually erodes the narrow ditches and roadway, and often flows over the road causing erosion of the fill slopes. The 4<sup>th</sup> switchback is too tight to safely accommodate the design vehicle (Class C recreational vehicle).

Under the Preferred Alternative, this segment is proposed for light reconstruction to provide a consistent 6.6 meter (22 feet) roadway width. The new roadway surfacing would be asphalt or asphalt with a chip seal. The light reconstruction would closely follow the existing alignment and grade with minimal excavation of the cut slopes. The 4<sup>th</sup> switchback is proposed to be belled out

approximately 3 meters (10 feet). A new cut slope at the beginning of the segment (station 7+260) would be laid back at a 1:2 slope in for approximately 30 meters (100 feet) length. The existing oversteepened cut slopes will be stabilized and repaired where possible, using extensive revegetation techniques. Three sections of retaining/guard walls (either simulated stone or with natural stone facing) are proposed on the downhill side of the road for approximately 720 meters (2,362 feet) in this segment to accommodate the wider roadway. The average height of the retaining walls would be 2 meters (6 feet), not including the traffic barrier. One of the retaining/guard walls is proposed to retain the fill slope at the 4<sup>th</sup> switchback. The typical width of disturbance would be 12 meters (40 feet) in concrete wall areas and 20 meters (60 feet) in the area of new cut slopes. Extensive revegetation work including placement of topsoil, native seed, mulch, container stock - native trees and shrubs would be provided on the downhill slopes adjacent the retaining walls. Additional culverts would be installed at frequent intervals (typically every 150 meters or 500 feet) to improve drainage. Paved ditches with concrete curb are proposed for 995 meters (3264 feet) of this segment. There are high steep fill slopes adjacent to the existing road, which are especially hazardous. Masonry faced guardwalls are proposed instead of metal guardrail and will be installed where the retaining walls are constructed. As a result, three sections of guardwall are proposed for a total length of approximately 720 meters (2,362 feet). A paved pullout for 3-4 cars is proposed between the 3<sup>rd</sup> and 4<sup>th</sup> switchback.

### **GS Segment B**

The 0.29 kilometer (0.15 mile) section of the route is located from the pullout between the 3<sup>rd</sup> and 4<sup>th</sup> switchbacks to the 3<sup>rd</sup> switchback above Georgetown. The existing roadway has a 6.6 meter (22 feet) paved width, a narrow ditch, and an average gradient of over 9 percent.

Under the Preferred Alternative, the existing roadway would be rehabilitated and resurfaced to a 6.6 meter (22 feet) width with asphalt pavement or asphalt pavement with a chip seal. The typical width of disturbance would be 8 to 9 meters (26 to 30 feet). Some existing drainage problems would not be fully addressed due to the narrow ditch width in most locations. Also, there would remain insufficient width for snow storage needed for winter maintenance. The existing ditches and foreslopes are consistently narrow and grades are relatively steep, and paved ditches with concrete curb are proposed for the entire length of the segment.

### **GS Segment C**

The 0.34 kilometer (0.21 mile) segment descends steeply between the 3<sup>rd</sup> and 4<sup>th</sup> switchbacks above Georgetown. The average grade through this area is 9 percent. The terrain adjacent the road is very steep with 1:2 (vertical:horizontal) slopes. The existing paved roadway varies in width from 4.9 to 6.0 meters (16 to 20 feet). The existing cut slopes are 4 to 8 meters (13 to 26 feet) high and are oversteepened and have not fully revegetated. There are several locations where the existing cut slopes are oversteepened (1:1 or steeper) which lack vegetation and are subject to erosion, and ravel onto the roadway causing drainage problems. Most of the existing fill slopes are very steep and hazardous, and the edge of the road is being lost to erosion. There are few existing culverts and runoff continually erodes the narrow ditches and roadway, and often flows over the road causing erosion of the fill slopes.

Under the Preferred Alternative, this segment of road would undergo light reconstruction to provide a consistent 6.6 meter (22 feet) roadway width. The new roadway surfacing would be asphalt or asphalt with a chip seal. The light reconstruction would closely follow the existing alignment and

grade with minimal excavation of the cut slopes. The existing oversteepened cut slopes will be stabilized and repaired where possible, using extensive revegetation techniques. To avoid exacerbating the existing steep cut slopes, a section of cut side walls, 1 to 2 meters (3 to 6 feet) high for a total length of approximately 29 meters (95 feet), is proposed. The exterior facing of the cut side wall would consist of dry stacked stone masonry. A section of retaining/guard wall (either simulated stone or with natural stone facing) is proposed on the downhill side of the road for approximately 295 meters (968 feet) in this segment to accommodate the wider roadway. The retaining/guard wall would be 1 to 2 meters (3 to 6 feet) in height, not including the traffic barrier. The typical width of disturbance would be 12 meters (40 feet). Extensive revegetation work including placement of topsoil, seed, mulch, container stock - native trees and shrubs will be provided on the downhill slopes adjacent the retaining walls. Additional culverts would be installed at frequent intervals to improve drainage. Paved ditches with concrete curb are proposed for 305 meters (1001 feet) of this segment.

### **GS Segment D**

The 0.16 kilometer (0.10 mile) section of the route is located from a point between the 2<sup>nd</sup> and 3<sup>rd</sup> switchbacks to the 2<sup>nd</sup> switchback above Georgetown. The existing roadway has a 6.6 meter (22 feet) paved width, and a narrow ditch, and has an average gradient of 9 percent. The 2<sup>nd</sup> switchback is adequate for the design vehicle.

Under the Preferred Alternative, the existing roadway would be rehabilitated and resurfaced to a 6.6 meter (22 feet) width with asphalt pavement or asphalt pavement with a chip seal. Two sections of retaining wall (either simulated stone or with natural stone facing) is proposed for the downhill side of the road for approximately 105 meters (345 feet) in this segment to accommodate the wider roadway. The retaining wall would be 1 to 2 meters (3 to 6 feet) in height not including the traffic barrier. The typical width of disturbance would be 12 meters (40 feet). Extensive revegetation work including placement of topsoil, seed, mulch, and container stock (native trees and shrubs) will be provided on the downhill slopes adjacent to the retaining walls. Some existing drainage problems would not be fully addressed due to the narrow ditch width in most locations. Also, there would remain insufficient width for snow storage needed for winter maintenance. The existing ditches and foreslopes are consistently narrow and grades are relatively steep, and paved ditches with concrete curb are proposed for 110 meters (361 feet) of the segment.

### **GS Segment E**

The 0.40 kilometer (0.25 mile) segment descends steeply from the 2<sup>nd</sup> switchback above Georgetown to the end of the route at 2<sup>nd</sup> and Rose Streets. The average grade through this area is 8 percent. The terrain adjacent the road is very steep with 1:2 slopes. The existing paved roadway is 6 meters (20 feet) width. The existing cut slopes are 4 to 8 meters (13 to 26 feet) high and are oversteepened and have not fully revegetated. There are several locations where the existing cut slopes are oversteepened (1:1 or steeper) which lack vegetation and are subject to erosion, and ravel onto the roadway causing drainage problems. Most of the existing fill slopes are very steep and hazardous, and the edge of the road is being lost to erosion. There are few existing culverts and runoff continually erodes the narrow ditches and roadway, and often flows over the road causing erosion of the fill slopes.

Under the Preferred Alternative, this segment would undergo light reconstruction to provide a consistent 6.6 meter (22 feet) roadway width. The new roadway surfacing would be asphalt or

asphalt with a chip seal. The light reconstruction would closely follow the existing alignment and grade with minimal excavation of the cut slopes, except just above the 1<sup>st</sup> switchback. The existing oversteepened cut slopes will be stabilized and repaired where possible, using extensive revegetation techniques. To avoid exacerbating the existing steep cut slopes, one section of a cut side wall, with an average height of 2 meters (6 feet) high for a total length of approximately 70 meters (230 feet), is proposed. The exterior facing of the cut side wall would consist of dry stacked stone masonry.

One section of retaining wall (either simulated stone or with natural stone facing) is proposed on the downhill side of the road for approximately 20 meters (66 feet) in this segment to accommodate the wider roadway. The retaining wall would be 2 to 3 meters (6 to 10 feet) height, not including the traffic barrier. The typical width of disturbance would be 12 meters (40 feet). Extensive revegetation work including placement of topsoil, native seed, mulch, container stock - native trees and shrubs would be provided on the downhill slopes adjacent the retaining walls. Additional culverts would be installed at frequent intervals to improve drainage. Paved ditches with concrete curb are proposed for 345 meters (1,132 feet) of this segment.

### **Rose Street**

A connection will be made to match the existing roadway at Rose Street in Georgetown. The existing roadway is paved and is approximately 6.0 meters (20 feet) wide. The drainage along Rose Street is inadequate, as there is little roadside ditch. Drainage improvements may be made to the connection, probably through the use of a curb and gutter system.

### **Caveat**

In providing less reconstruction and more rehabilitation under the Preferred Alternative, the cooperating agencies acknowledge that the safety and long-term performance of that portion of the road is compromised. A tradeoff in safety enhancement results from simply rehabilitating portions of the road instead of reconstructing, primarily as a result of less modification to the road geometry (horizontal and vertical alignment) and adjacent roadside. There is also some tradeoff in the desired long-term service life, primarily as a result of the reduced roadway structural capacity that can be provided under rehabilitation versus reconstruction, and less improvement to the ditches and foreslopes than is desired to optimally convey drainage and support the road surface. For example, there are some locations where additional ditch-relief culverts are needed but there is insufficient width for a standard metal end section installation, so it would be necessary to use less effective drop inlets under rehabilitation. There may also be some locations where there is insufficient cover to provide a single pipe to optimally convey the design discharge, and multiple smaller pipes may need to be substituted under rehabilitation versus reconstruction.

### **Safety and Liability**

The over-riding engineering consideration when performing a roadway improvement is the safety of the improved road for the traveling public. A risk is involved in designing and implementing a highway construction project. If improvements are made as part of a Federal action, then safety has to be designed into the project. To not do so would create a liability for both the engineer and the owner of the facility. After careful analysis of the safety risks involved, the FHWA, FS, and CDOT believe that the improvements included under the Preferred Alternative represent the minimum design standards and criteria applicable for the Guanella Pass Road. These agencies must consider the accountability for the safety risk to the public, risk of investment of funds in repairs with potentially short service life, potential liability of unaddressed hazardous conditions, and potential

liability for the maintaining agency (i.e., leaving too many unaddressed operational issues and maintenance problems). Although increased safety risks can sometimes be partially mitigated, any requirements for selection of alternatives which deviate from established design guidelines must be fully justified and detailed by the originator of the decision. It is important that the reason and necessity for any design exception are documented, including the party responsible for the decision, in the event of future tort claims based on allegations of defective design.

## **Definitions of Cross-Section Elements**

**Barrier Offset** - The lateral distance from the outside edge of shoulder to the face of the roadside barrier.

**Base** - The layer, or layers, of specified or selected material of designed thickness placed on a subbase or a subgrade to support a surface course.

**Centerline** - For a two-lane highway the centerline is the middle of the traveled way, and for a divided highway the centerline may be the center of the median. For a divided highway with independent roadways, each roadway has its own centerline.

**Cross Section** - The transverse profile of a road showing horizontal and vertical dimensions.

**Cutslope** - In excavation sections, the roadway side slope from the bottom of the ditch to the top of the cut. Also known as backslope.

**Ditch** - A long narrow trench used to transport water. Located at the bottom of cuts.

**Ditch Foreslope** - The slope from the edge of the subgrade to the bottom of the ditch in cuts.

**Embankment** - A raised earth structure on which the roadway pavement structure is placed.

**Excavation** - (1) The act of taking out material. (2) The materials taken out. (3) The cavity remaining after materials have been removed.

**Fillslope** - In embankment sections, the roadway side slopes from the edge of the subgrade to the existing ground.

**Off-tracking** - The width of tracking of the vehicle's rear wheels beyond the track of the front wheels, when negotiating a curve.

**Original Ground** - The existing ground surface present prior to construction.

**Pavement Structure** - The combination of subbase, base course, and surface course placed on a subgrade to support the traffic load and distribute it to the roadbed.

**Roadside** - The area between the outside shoulder edge and the right-of-way limits, or clearing limits. The area between roadways of a divided highway may also be considered roadside.

**Roadside Barrier** - A longitudinal barrier used to shield roadside obstacles or non-traversable terrain features.



**Roadway** - The portion of a highway, including shoulders, for vehicular use. (A divided highway has two or more roadways.)

**Rounding** - The removal of the angle where cut and fill slopes intersect the natural ground, and the substitution of a gradual transition, or rounded surface.

**Seasonal ADT (SADT)** - The average daily traffic (ADT) over a specified portion of the year.

**Shoulder** - The portion of the roadway contiguous to the traveled way for accommodation of stopped vehicles, for emergency use, for support of the travel lanes, for lateral support of base and surface edges, and for extension of drainage away from the travel lanes.

**Side Slopes** - Slopes along the side of the roadway identified by their distance from the traveled way, their slope rate, and their height.

**Subbase** - The layer or layers of specified or selected material of designed thickness placed on a subgrade to support a base course.

**Subgrade** - The top surface of a roadbed upon which the pavement structure, shoulders, and curbs are constructed.

**Surface Course** - One or more layers of a pavement structure designed to accommodate the traffic load, the top layer of which resists skidding, traffic abrasion, and the disintegrating effects of climate. The top layer is sometimes called *wearing course*.

**Surfacing Foreslope** - The slope from the edge of the surfaced shoulder to the top of the subgrade.

**Traveled Way** - The portion of the roadway for the movement of vehicles, exclusive of shoulders.

**Travel Lane** - The portion of the roadway designated for a single line of vehicles traveling in the same direction, excluding shoulders.

## **APPENDIX D:**

### **LOCATIONS OF SPECIAL CROSS SECTIONS**

At the request of the Park County, Clear Creek County and Georgetown representatives, FHWA has included a station by station breakdown of the location of various retaining wall, guardrail, and guardwall treatments for Alternative 6 (the Preferred Alternative). Please note that these are only estimated locations and lengths of these treatments based on the best information available at this time. These locations and lengths may be slightly modified during future design development.

**SUMMARY OF PROPOSED PAVED DITCH  
FOR ALTERNATIVE 6**

SEGMENT	STATION	-	STATION	SIDE OF ROAD (facing north from Grant)	LENGTH m.(ft.)
Cabin Creek	30+440	-	31+610	LT	1170 (3,838)
Clear Lake	32+300	-	32+400	LT	100 (328)
Green Lake	32+760	-	32+960	LT	200 (656)
	32+830	-	33+270	LT	440 (1,444)
	33+400	-	33+610	LT	210 (689)
Switchbacks	33+580	-	33+830	LT	250 (820)
	33+855	-	34+115	RT	260 (853)
	34+160	-	34+325	LT	165 (541)
South Clear Creek	34+385	-	34+610	LT	225 (738)
Waldorf Road	34+720	-	34+940	LT	220 (722)
Silverdale A	35+010	-	35+090	RT	80 (263)
	35+300	-	36+200	LT	900 (2,953)
Silverdale B	36+320	-	36+480	LT	160 (525)
	36+560	-	36+600	LT	40 (131)
Silverdale C	36+600	-	36+820	LT	220 (722)
Georgetown Switchbacks A	37+240	-	37+395	LT	155 (509)
	37+425	-	37+830	LT	405 (1,329)
	37+880	-	38+315	RT	435 (1,427)
Georgetown Switchbacks C	38+350	-	38+640	LT	290 (951)
Georgetown Switchbacks D	38+640		38+740		100 (328)
	38+790	-	38+800	RT	10 (33)
Georgetown Switchbacks E	38+800		39+010		210 (689)
	38+990	-	39+080	LT	90 (295)
	39+035	-	39+080	RT	45 (148)
<b>TOTAL</b>					<b>6,380 (20,932)</b>

**SUMMARY OF GEORGETOWN GUARDWALL SECTION  
FOR ALTERNATIVE 6**

SEGMENT	STATION	-	STATION	SIDE OF ROAD (facing north from Grant)	LENGTH m.(ft.)
Silverdale A	36+310	-	36+320	RT	10 (33)
Silverdale B	36+320		36+600	RT	280 (919)
Georgetown Switchbacks A	37+200	-	37+450	RT	250 (820)
	37+560	-	37+810	RT	250 (820)
	37+835	-	38+055	LT	220 (722)
Georgetown Switchbacks C	38+340	-	38+545	RT	205 (673)
	38+550	-	38+640	RT	90 (295)
Georgetown Switchbacks D	38+640	-	38+695	RT	55 (181)
				RT	
	38+750	-	38+800	LT	50 (164)
Georgetown Switchbacks E	38+800	-	38+820	LT	20 (66)
<b>TOTAL</b>					<b>1430 (4692)</b>

<b>SUMMARY OF CUT WALL FOR ALTERNATIVE 6</b>					
<b>SEGMENT</b>	<b>STATION</b>	<b>-</b>	<b>STATION</b>	<b>SIDE OF ROAD (facing north from Grant)</b>	<b>LENGTH m.(ft.)</b>
Geneva Canyon	3+500	-	3+555	RT	55 (181)
	3+565	-	3+640	RT	75 (246)
Falls Hill B	8+200	-	8+300	LT	100 (328)
	8+510	-	8+580	RT	70 (230)
Upper Switchbacks	23+780	-	23+845	RT	65 (213)
Switchbacks	33+980	-	34+105	RT	125 (410)
	34+160	-	34+230	LT	70 (230)
Silverdale B	36+340	-	36+360	LT	20 (66)
Silverdale C	36+680	-	36+720	LT	40 (131)
Georgetown Switchbacks C	38+540	-	38+570	LT	30 (98)
	38+620	-	38+635	LT	15 (49)
Georgetown Switchbacks E	38+940	-	39+010	RT	70 (230)
<b>TOTAL</b>					<b>735 (2,411)</b>

<b>SUMMARY OF MSE WALL FOR ALTERNATIVE 6</b>					
<b>SEGMENT</b>	<b>STATION</b>	<b>-</b>	<b>STATION</b>	<b>SIDE OF ROAD (facing north from Grant)</b>	<b>LENGTH m.(ft.)</b>
Falls Hill B	8+110	-	8+180	LT	70 (230)
	8+210	-	8+315	RT	105 (345)
	8+595	-	8+695	LT	100 (328)
Shelf Road – Park Co	16+145	-	16+210	RT	65 (213)
	16+265	-	17+255	LT	990 (3,248)
	17+275	-	17+800	LT	525 (1,722)
Shelf Road – Clear Creek Co	17+800	-	17+865	LT	65 (213)
	17+875	-	17+930	LT	55 (181)
	17+900	-	18+795	LT	895 (2,936)
Above Duck Lake	20+080	-	20+480	LT	400 (1,312)
Upper Switchbacks	22+515	-	22+585	LT	70 (230)
	22+605	-	22+630	LT	25 (82)
	22+775	-	23+150	RT	375 (1,230)
	23+280	-	23+320	RT	40 (131)
	23+385	-	23+695	RT	310 (1,017)
	23+740	-	23+880	LT	140 (459)
	24+000	-	24+176	RT	176 (577)
Naylor Creek	25+020	-	25+070	RT	50 (164)
South Clear Creek D	28+220	-	28+305	LT	85 (279)
	28+315	-	28+344	LT	29 (95)
	28+895	-	29+290	RT	395 (1,296)
Clear Lake	32+260	-	32+400	RT	140 (459)
Switchbacks	33+615	-	33+735	LT	120 (394)
	33+830	-	33+930	LT	100 (328)
	33+990	-	34+070	LT	80 (263)
	34+130	-	34+300	RT	170 (558)
Waldorf Road	34+675	-	34+910	RT	235 (771)
<b>TOTAL</b>					<b>5310 (17,421)</b>

**SUMMARY OF GUARDRAIL OUTSIDE PROPOSED WALL AREAS  
FOR ALTERNATIVE 6**

<b>SEGMENT</b>	<b>STATION</b>	<b>-</b>	<b>STATION</b>	<b>SIDE OF ROAD (facing north from Grant)</b>	<b>LENGTH m.(ft.)</b>
Falls Hill B	8+100	-	8+110	LT	10 (33)
	8+180	-	8+200	LT	20 (66)
	8+200	-	8+210	RT	10 (33)
	8+315	-	8+360	RT	45 (148)
	8+495	-	8+595	LT	100 (328)
	8+695	-	9+045	LT	350 (1148)
Shelf Road Park County	16+140	-	16+150	RT	10 (33)
	16+210	-	16+220	RT	10 (33)
	16+255	-	16+265	LT	10 (33)
Shelf Road - Clear Creek County	17+930	-	17+940	LT	10 (33)
	17+875	-	17+895	LT	20 (66)
	18+795	-	18+805	LT	10 (33)
Duck Lake C	20+070	-	20+080	LT	10 (33)
Duck Lake to Pass	20+480	-	20+620	LT	140 (459)
Upper Switchbacks	22+505	-	22+515	LT	10 (33)
	22+630	-	22+760	LT	130 (427)
	22+765	-	22+775	RT	10 (33)
	23+140	-	23+150	RT	10 (33)
	23+175	-	23+280	RT	105 (345)
	23+320	-	23+385	RT	65 (213)
	23+695	-	23+705	RT	10 (33)
	23+730	-	23+740	LT	10 (33)
	23+880	-	23+920	LT	40 (131)
	23+990	-	24+000	RT	10 (33)
	24+170	-	24+180	RT	10 (33)
	Upper Clear Creek	24+180	-	24+185	RT
Naylor Creek	25+010	-	25+020	LT	10 (33)
	25+060	-	25+070	LT	10 (33)
South Clear Creek D	28+190	-	28+220	LT	30 (98)
	28+305	-	28+315	LT	10 (33)
	28+344	-	28+354	LT	10 (33)
	28+880	-	28+895	LT	15 (49)
	29+290	-	29+330	LT	40 (131)
Cabin Creek	32+220	-	32+260	RT	40 (131)
Clear Lake	32+260	-	32+400	RT	140 (459)
Switchbacks	33+605	-	33+615	LT	10 (33)
	33+735	-	33+745	LT	10 (33)
	33+815	-	33+830	LT	15 (49)
	34+070	-	34+080	LT	10 (33)
	34+120	-	34+130	RT	10 (33)
South Clear Creek	34+300	-	34+310	RT	10 (33)
	34+650	-	34+675	RT	25 (82)
Waldorf Road	34+910	-	34+920	RT	10 (33)
Silverdale A	34+970	-	35+100	LT	130 (427)
	35+190	-	35+280	RT	90 (295)
Silverdale B	36+400	-	36+420	LT	20 (66)
<b>TOTALS</b>					<b>1,815 (5,954)</b>

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**APPENDIX E:**  
**MAILING LIST**

## Agencies, Government Officials, and Organizations

Colorado School of Mines  
Arthur Lakes Library  
Government Publications  
PO Box 4029  
Golden, CO 80401-0029

Director  
Northern Arapaho Cultural Commission  
Wind River Reservation  
PO Box 217  
Ft. Washakie, WY 82514

Park County Administrator  
PO Box 220  
Fairplay, CO 80440

Ms. Coralue Anderson  
Georgetown Board of Selectmen  
PO Box 517  
Georgetown, CO 80444

Christine Bradley  
Georgetown Board of Selectment  
PO Box 426  
Georgetown, CO 80444

Brooke Buckley  
Mayor Pro Tem, Georgetown Selectmen  
PO Box 596  
Georgetown, CO 80444

Betsy Chapoose  
Cultural Preservation Office  
Uintah & Ouray Reservation  
PO Box 190  
Fort Duchesne, UT 84206

Road Maintenance Supervisor  
Clear Creek County  
PO Box 14  
Georgetown, CO 80444

Tribal Manager  
Ute Mountain Ute Tribe  
PO Box 52  
Towaoc, CO 81334

Colorado Mountain Club  
710 10<sup>th</sup> Street, #200  
Golden, CO 80401

Ms. Phyllis Attocknie  
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Cultural Preservation Office  
Comanche Tribe  
H.C. 32 PO Box 1720  
Lawton, OK 73502

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Chairperson  
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Wind River Reservation  
PO Box 217  
Ft. Washakie, WY 82514

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Colorado Field Supervisor  
US Fish and Wildlife Service  
PO Box 25487  
Denver Federal Center  
Denver, CO 80225-0207

Ms. Cynthia Cody  
NEPA Coordinator, Region 8  
Environmental Protection Agency  
999 18<sup>th</sup> Street, Suite 500  
Denver, CO 80202



Wallace Coffey  
Chairman  
Comanche Tribal Business Council  
Comanche Tribe  
H.C. 32 PO Box 1720  
Lawton, OK 73502

Ms. Marlene Crosby  
Road/Bridge Supervisor  
Gunnison County Courthouse  
811 Rio Grande  
Gunnison, CO 81230

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Ute Indian Tribe  
PO Box 190  
Ft. Duchense, UT 84026

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Town of Georgetown  
PO Box 426  
Georgetown, CO 80444

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South Platte Ranger District  
Pike National Forest  
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Colorado Division of Wildlife  
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Attn: Karen Hardy-Hunt  
Colorado Historical Society  
1300 Broadway  
Denver, CO 80203-2137

Director, Office of Environmental Policy  
and Compliance  
Department of the Interior  
Main Interior Building, MS 2340  
1849 C Street, NW  
Washington, DC 20240

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Southern Ute Reservation  
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Fairplay Flume  
PO Box 460  
Bailey, CO 80421

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Ute Mountain Ute Tribal Council  
Ute Mountain Ute Reservation  
General Delivery  
Towaoc, CO 81334

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US Army Corp of Engineers  
9307 South Wadsworth Blvd  
Littleton, CO 80128-6901

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District Ranger  
Clear Creek Ranger District  
Arapaho & Roosevelt National Forest  
101 Chicago Creek, PO Box 3307  
Idaho Springs, CO 80452

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Clear Creek County Commission  
PO Box 2000  
Georgetown, CO 80444

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Upper Clear Creek Watershed Association  
PO Box 847  
Idaho Springs, CO 80452

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Georgetown Certified Local Government  
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Fish and Wildlife Service  
755 Parfet Street, Suite 361  
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US Forest Service, Region 2  
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Lakewood, CO 80225-0127

Mr. Jim Moe  
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US Forest Service, Region 2  
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Lakewood, CO 80225-0127

Aldan Naranjo  
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Southern Ute Cultural Department  
Southern Ute Reservation  
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Historic Georgetown, Inc.  
PO Box 667  
Georgetown, CO 80444

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Georgetown Planning Commission  
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Georgetown, CO 80444

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Park County Tourism Office  
PO Box 312  
Fairplay, CO 80440

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Colorado Division of Wildlife  
317 West Prospect Road  
Fort Collins, CO 80526

Mr. Rick Peters  
Director  
Park County Road and Bridge  
PO Box 147  
Fairplay, CO 80440

Mr. Robert Poirot  
Clear Creek County Commissioner  
PO Box 2000  
Georgetown, CO 80444

Joyce Posey, Director  
Eastern Shoshone Culture Center  
Wind River Reservation  
PO Box 217  
Ft. Washakie, WY 82514

Mr. Clay Ronish  
Fish and Wildlife Service  
755 Parfet Street, Suite 361  
Lakewood, CO 80215

Mr. Fred Skaer  
Chief  
Project Development Branch (HEPE-1)  
Federal Highway Administration  
400-7<sup>th</sup> Street, SW  
Washington, DC 20590

Ann Skinner  
Colorado Department of Transportation  
18500 East Colfax Avenue  
Aurora, CO 80111

Ms. Judy Smith  
Monographs Acquisition Service  
Colorado State University Library  
Fort Collins, CO 80523-1019

Rocky Smith  
Colorado Wild  
1030 Pearl, #9  
Denver, CO 80203

Mr. Robert C. Smith, Chairman  
Attn: Ms. Barbara Boyer  
Clear Creek County Tourism Board  
PO Box 100  
Idaho Springs, CO 80452

Mr. Jerry Solberg  
Park County Commissioner  
Park County  
PO Box 220  
Fairplay, CO 80440

Butch Sootkis, Director  
Northern Cheyenne Cultural Committee  
Northern Cheyenne Reservation  
PO Box 128  
Lame Deer, MT 59043

Ms. Joann Sorensen  
Clear Creek County Commissioner  
PO Box 2000  
Georgetown, CO 80444

Mr. Don Staples  
Park County Commissioner  
Park County Government  
PO Box 220  
Fairplay, CO 80440

Mr. John Swartout  
Office of Senator Wayne Allard  
7340 East Caley Ave, Suite 215  
Englewood, CO 80111

Edwin Tomasi  
Georgetown Selectmen  
PO Box 1039  
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Park County Commissioner  
Park County  
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Fairplay, CO 80440

William Walks Along, President  
Northern Tribal Council  
Northern Cheyenne Reservation  
PO Box 128  
Lame Deer, MT 59043

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Chairperson  
Shoshone Business Council  
Wind River Business Council  
PO Box 217  
Ft. Washakie, WY 82514

Fabyan Watrous  
Clear Creek County Commissioner  
PO Box 2000  
Georgetown, CO 80444

Mr. Berten R. Weaver  
Planning Director  
Clear Creek County  
PO Box 2000  
Georgetown, CO 80444

Ms. Glenda Wilson  
Director of Engineering, Region 2  
US Forest Service  
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Lakewood, CO 80225-0127

Ron Wopsock, Chairperson  
Uintah & Ouray Business Committee  
Uintah & Ouray Reservation  
PO Box 190  
Ft. Duchesne, UT 84206

Ms. Lyn Yarroll  
Chair, Guanella Pass Study Group  
Sierra Club Mount Evans Group  
12126 Powhatan Trail  
Conifer, CO 80433

Doug Young  
Senior Policy Advisor  
Office of Congressman Mark Udall  
1333 West 120<sup>th</sup> Avenue #210  
Westminster, CO 80234

### **Locations Copies are Available for Review**

Park County Library - Fairplay  
418 Main Street  
Fairplay, CO 80440

Arapaho National Forest  
Forest Supervisor's Office  
240 W. Prospect  
Ft. Collins, CO 80526-2098

Park County Clerk and Recorder  
501 Main Street  
Fairplay, CO 80440

Park County Library - Bailey  
350 Bulldogger Road  
Bailey, CO 80421

Tomay Memorial Library  
605 6th Street  
Georgetown, CO 80444

Denver Public Library  
10 West 14th Avenue  
Denver, CO 80204

## Private Citizens

Ms. Wendy Anderson  
Hartman Axley  
Noel Barbash  
Mr. Phil Buckland  
Mr. Michael Collins  
Mr. Ben Dugan  
Harold Gewuerz  
Mr. James Gordon  
Harv Hisgen  
Ms. Kathy Hunninen  
Ron Lane  
Mr. Phillip Mcollough  
Mr. George Muir  
Mr. Jack Paterson  
Mr. Michael Stavy  
Mr. Don Tanner

Robert & Elisa Angell  
Ms. Marge Axley  
Mr. Tod Barker  
Don & Anne Callison  
John T. Cooney  
Mr. Scott Dugan  
Rube Goeringer  
Libbie Gottschalk  
Ms. Julie Holmes  
Einar Jensen  
Mr. Lynn Larson  
Stephen Mead  
Robert A. Nelson  
Mr. Tom Rutter  
Mr. D'Arcy Straub  
Dick Weaton

Lindsey G. Ashby  
Mr. Eric G. Banta  
Mr. Winston W. Brockner  
Ms. Laura Carlson  
C.J. Delange  
Mr. John Fielder  
Mr. James Gordon  
Mr. Don Heyse  
Wilson B. Hopkins  
Mr. David Jones  
Aubrey Lavizzo  
Mr. Robert A. Mishler  
William Nevius  
Ms. Julia G. Scott  
Ms. Patricia S. Strunk  
Katherine Wilson