

Supplemental Environmental Assessment

BRIDGE REPLACEMENTS AND CHANNEL IMPROVEMENTS ON COTTONWOOD CREEK

Deer Lodge, Powell County, Montana

FEMA PDMC-PJ-08-CO-2011-0008

FEMA PDMC-PJ-08-CO-2005-0007

FEMA-1767-DR-MT, Project 9R

FEMA-1350-DR-MT, Project 2R

FEMA-1350-DR-MT, Project 6R

FEMA-1996-DR-MT

September 2011

Department of Homeland Security
FEMA Region VIII
Denver, Colorado 80225



FEMA

TABLE OF CONTENTS

1.0 INTRODUCTION.....	1
1.1 Background	1
2.0 PURPOSE AND NEED.....	2
3.0 ALTERNATIVES CONSIDERED	3
3.1 Alternatives Analyzed and Dismissed	3
3.2 Alternatives Carried Forward and Evaluated	3
4.0 AFFECTED ENVIRONMENT AND IMPACTS	5
4.1 Geology, Topography, and Soils	7
4.2 Hydrology/Water Quality	8
4.3 Floodplains	9
4.4 Biological Resources	10
4.5 Transportation	12
4.6 Environmental Justice	13
4.7 Air Quality	13
4.8 Noise	14
4.9 Cultural Resources	14
5.0 CUMULATIVE IMPACTS	15
6.0 PUBLIC INVOLVEMENT.....	16
7.0 AGENCY COORDINATION AND PERMITS.....	16
8.0 CONCLUSIONS.....	16
8.1 Mitigation and Stipulations	17
9.0 REFERENCES.....	18
10.0 LIST OF PREPARERS	18

COTTONWOOD CREEK FLOOD MITIGATION PROJECT SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

1.0 INTRODUCTION

1.1 Background

A regular occurrence of flooding has been recorded along the Cottonwood Creek in the City of Deer Lodge since 1908. The Cottonwood Creek Flood Mitigation Project (FEMA PDMC-PJ-08-CO-2011-0008; FEMA PDMC-PJ-08-CO-2005-0007; FEMA-1767-DR-MT, Project 9R; FEMA-1350-DR-MT, Project 2R; and FEMA-1350-DR-MT, Project 6R, FEMA-1996-DR-MT) is intended to reduce flooding potential along Cottonwood Creek in the City.

Powell County and the City of Deer Lodge have applied for funding under the Federal Emergency Management Agency's (FEMA) Pre-Disaster Mitigation (PDM) grant program, the Hazard Mitigation Grant Program (HMGP) and the Public Assistance (PA) Program.

FEMA prepared an Environmental Assessment (EA) in January 2006 addressing "Bridge Replacements and Channel Improvements on Cottonwood Creek." That EA resulted in a **Finding of No Significant Impact** (FONSI), which was signed on February 9, 2006. That document included environmental review for the Main, 4th, Clark, and Clagett Street bridges along the Cottonwood Creek in the City of Deer Lodge, Montana. This supplemental EA is to document and transmit revisions made to the final design of the Main Street Bridge portion, as well as the addition of a proposed connected action (FEMA-1767-DR-MT, Project 9R) for the replacement of the downstream 2nd Street Bridge; also in Deer Lodge.

Both the 2006 EA and this 2011 Supplemental EA have been completed using information and assumptions used in the PDM and HMGP grant applications, which were developed through preliminary engineering work. Portions of the original project have been completed as of the date of this publication (namely, the 4th Street, Clark Street, and Clagett Street bridges, as well as associated channel improvements). The 2006 EA addressed proposed changes to the Main Street Bridge. However, the sub-applicant did not commence construction on the Main Street Bridge because of funding issues. This document will address the purpose and goals as described in the original EA and approved in the original FONSI, both of which are incorporated here by reference.

In terms of the proposed new Main Street Bridge, the overall project elements and location are the same as described in the original EA. Montana SHPO has indicated that the current design plans meets all stipulations in the original Memorandum of Agreement (MOA) finalized March 27, 2008. All original mitigation measures and project conditions apply.

The City and County are now also requesting FEMA funding for the removal, disposal and replacement of a bridge at 2nd Street, which is approximately 350 feet downstream of the Main Street Bridge. The proposed new 2nd Street Bridge would be a free-span structure (concrete) with new abutments to match recent channel reconstruction. The proposed replacement bridge structure will also be elevated to handle flows from a 100-

COTTONWOOD CREEK FLOOD MITIGATION PROJECT SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

year flood event.

This document:

1. Updates the status of stipulations for the Main Street Bridge,
2. Adds the proposed 2nd Street Bridge to the overall project,
3. Captures effects from cumulative flood control actions taken on Cottonwood Creek,
4. Addresses updated correspondence between FEMA and other resource agencies, and
5. Identifies the adherence to the mitigations and stipulations listed in the FONSI.

In accordance with 44 Code of Federal Regulations (CFR) for FEMA, Subpart B, Agency Implementing Procedures, Part 10.9, this Supplemental Environmental Assessment (SEA) has been prepared pursuant to Section 102 of the National Environmental Policy Act (NEPA) of 1969, as implemented by the regulations promulgated by the President's Council on Environmental Quality (CEQ; 40 CFR Parts 1500-1508). This SEA hereby incorporates the Final EA by reference, in accordance with 40 CFR Part 1508.28. The purpose of the SEA is to analyze the potential environmental impacts of the proposed action(s), and to determine whether to prepare an Environmental Impact Statement or a FONSI.

2.0 PURPOSE AND NEED

Deer Lodge, Montana is a city of approximately 3500 residents. It is supported by agriculture, as well as tourism. Cottonwood Creek flows through Deer Lodge in an east-west direction, a distance of approximately 15 blocks, and empties into the Clark Fork River at the west edge of town and eventually into the Johnson Creek to the north. The Cottonwood Creek has flooded numerous times as recorded in 1908, 1916, 1917, 1928, 1948, 1964, 1975, and 1981. The May 1981 flood is considered the most significant flood event for Deer Lodge, with a record discharge of 1,820 cfs, a near 500-year event.

Portions of the Cottonwood Creek are contained in an established channel that, in locations, has concrete and wood walls. Multiple road bridges and several walking bridges span the channel within City limits. Most flooding occurs during the late spring, when the thawing action of heavy, warm rains melts winter snow-pack. Flooding along Cottonwood Creek has caused significant damage in the past with the potential for future risks to property owners in the area.

The purpose of FEMA's pre- and post-disaster mitigation grant programs is to help communities substantially reduce the risk of future damage, hardship, loss, or suffering by providing funding opportunities for cost-effective projects.

The current capacity of the Cottonwood Creek channel where it flows through Deer Lodge is significantly constricted in the areas where bridge improvements have not yet taken place (Main Street and 2nd Street). Powell County has identified the need to lessen the potential for flooding and property damage along the Cottonwood Creek in Deer

Lodge.

3.0 ALTERNATIVES CONSIDERED

The following alternatives are considered for the construction of the proposed drainage improvements:

3.1 Alternatives Analyzed and Dismissed

Bypass Channel to Johnson Creek

An alternative discussed in an April 2001 Flood Hazard Mitigation Plan for Cottonwood Creek prepared for the City of Deer Lodge and Powell County consisted of a north bypass channel constructed to pass 860 cfs – including a diversion structure to eventually divert flow to Johnson Creek. This alternative was identified and dismissed in the 2006 Environmental Assessment. The bypass alternative would require significant land acquisition and require routing flood flows through the Grant-Kohrs Ranch, a National Historic Landmark.

Bypass Channel to Clark Fork River

Another alternative considered consisted of a bypass channel north of Deer Lodge, with eventual outflow into the Clark Fork River. This alternative would also require significant land acquisition and ground disturbance. Additionally, finding a suitable discharge location on the Clark Fork River would be difficult, and could potentially impact river fishery. Sediment load, agricultural groundwater, and fish habitat concerns proved this alternative to be less desirable.

Acquisition of Residential Structures

The City and County have considered acquiring several structures along the Cottonwood Creek between Larabie and 2nd streets in Deer Lodge. The properties have been identified as high risk, and could be acquired and relocated or demolished to eliminate encroachment along the floodplain. This alternative could be used in conjunction with the proposed action in the future.

3.2 Alternatives Carried Forward and Evaluated

Alternative 1: No Action

Under the No Action Alternative, the proposed bridge replacements at Main and 2nd Street would not be completed. This would negate the previous drainage work along the Cottonwood Creek channel, creating a potential bottleneck at the Main Street Bridge, and continuing the risk of flooding in the City of Deer Lodge.

COTTONWOOD CREEK FLOOD MITIGATION PROJECT SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

Alternative 2: Bridge Replacements and Channel Improvements (Proposed Action)

Under the Proposed Action Alternative, the Main Street and 2nd Street bridges will be removed, their materials disposed of, and replacement bridges erected in their place. The new structures would be capable of handling a 50-year flood event and would significantly reduce flood risk from a 100-year flood event.

The **Main Street Bridge** (aka the Cottonwood Creek Bridge) is a skewed single-span reinforced concrete slab structure, 213-feet long and 47-feet wide with a channel width of 20 feet. It was constructed in 1932, and serves as the major connection route between the north and south sides of Deer Lodge. The bridge is located on Montana Department of Transportation (MDT) Route S275, which is also designated as the I-90 Business Loop. The bridge receives heavy traffic from residential and commercial users, tourists, and ranching. As it stands now, the Main Street Bridge is undersized and restricts flows in the Cottonwood Creek channel. Taking into account recent upgrades to upstream bridges (Clagett, Clark, and 4th streets) the only viable method of increasing the hydraulic capacity of Cottonwood Creek is to replace the Main Street Bridge.

The proposed structure would be constructed in the same location as the existing structure; located in a 100-foot section of State right-of-way along Main Street. The roadway and sidewalk adjacent to the bridge would be improved for a total length of 200-feet to provide an appropriate transition length to the new bridge. The replacement structure would utilize a three-span, cast-in-place concrete slab as the superstructure and a cast in place spread footing as the substructure at each abutment with driven piling foundations at both intermediate bent locations. Total channel width will increase to 35 feet. New wing walls would be about six feet tall and six feet long. The new structure would be skewed at 43-degrees, have a total width of 65-feet and a span of 23-feet. The width would provide two 12-foot lanes, one 14-foot lane, two 8-foot shoulders, two five-foot raised pedestrian paths, and an allowance for a concrete bridge rail on each side of the structure. Approximately 250 of channel around the bridge will be improved to effectively transition into and out of the new structure. The new Main Street Bridge would require little maintenance, increase public safety, increase hydraulic capacity, and have a useful life of approximately 75 years.

The existing **2nd Street Bridge** is located at latitude 46.402500, longitude -112. 736666 on a crucial travel corridor that serves as a back-up emergency travel route in the event the Main Street Bridge is temporarily closed.

The structure is classified as single-span timber stringer bridge on concrete abutments. It's 24.5-feet long and 31-feet wide, and was constructed at an 11-degree skew. Channel width is approximately 20 feet. The superstructure consists of running boards placed on planking and supported by timber stringers. The substructure is composed of concrete abutments with integral wingwalls. The bridge was closed in late 2007 due to a failed deck, but was reopened in March 2008 after temporary replacement planking was placed.

**COTTONWOOD CREEK FLOOD MITIGATION PROJECT
SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT**

The proposed structure would be constructed in the same location as the existing structure, in the City of Deer Lodge’s established 70-foot right-of-way along 2nd Street. Removing and disposing of the existing 2nd Street Bridge (timber) and replacing it with a new free-span structure (concrete) will secure an adequate emergency travel route. The replacement structure would utilize four 35-foot long concrete tri-deck beams on a driven pile foundation at an 11-degree skew to match the creek alignment. Approximately 100 feet of channel around the bridge will be improved to effectively transition into and out of the new structure. Channel width will increase to 30 feet and the bridge will be elevated approximately 1.3-feet to accommodate the 900 cfs event, and include new abutments to match the new channel. The roadway adjacent to the bridge would be improved for a length of 200-feet to provide an appropriate transition length to the new bridge. The new 2nd Street Bridge would require little maintenance, increase public safety, increase hydraulic capacity, and have a useful life of approximately 75 years.

4.0 AFFECTED ENVIRONMENT AND IMPACTS

The following table summarizes the potential impacts of the Proposed Action Alternative and conditions or mitigation measures to offset those impacts. Following the summary table, any areas where potential impacts were identified will be discussed in greater detail.

AFFECTED ENVIRONMENT	IMPACTS	MITIGATION
Geology, Topography and Soils	Only minor impacts to soil or topography.	Appropriate Best Management Practices (BMPs), such as installing silt fences and revegetating bare soils immediately upon completion of construction would be used to stabilize soils.
Hydrology/Water Quality	Drainage patterns would be return to historical patterns and confined to the normal stream channel. Surface water quality over the long-term would be improved by reducing silt and debris caused by flooding.	The sub-applicants must obtain necessary permits from USACE and follow any and all applicable conditions. If, after final design, USACE requires an individual Sec 404 permit, the applicant must inform FEMA and insure all conditions of the 404 permit are followed. A Short-Term Water Quality Standard for Turbidity (318) authorization would likely be required from the Montana Department of Environmental Quality (DEQ).

**COTTONWOOD CREEK FLOOD MITIGATION PROJECT
SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT**

Floodplains	There is no practicable alternative to solving the flooding problems without construction within a floodplain. Drainage systems and bridges are functionally dependent on placement near water.	A Floodplain Development Permit would be required for the 2 nd Street Bridge work. Main street was received a permit in 2008. A Letter of Map Revision (LOMR) is required to document changes to the 100-year floodplain
Biological Resources	Proposed drainage improvements would be in previously disturbed areas within existing right-of-ways. Limited vegetation removal would occur along channels. FEMA determined the projects “may affect, but are not likely to adversely affect” (NLAA) Threatened and Endangered species.	Main Street Bridge is triple-span, but increases the channel width by 20 feet. The proposed 2 nd Street Bridge is a concrete, free-span structure, as recommended by the USFWS. Concurrence with NLAA received September 2, 2011
Transportation	No long-term impacts on traffic circulation or volume are anticipated.	Traffic would be detoured to other routes during demolition and construction. Upstream, the 4 th Street, 5 th Street, Clark Street, and Clagett Street bridges could be used as alternatives.
Environmental Justice	No adverse impacts on minority or low-income populations are anticipated. The proposed project would provide flood relief, which would benefit all populations in the watershed equally	None.
Air Quality	No long-term negative impacts to air quality would be generated by this alternative	None.
Noise	Noise would temporarily increase during construction activities in the immediate area of bridge replacements and channel improvements	Construction activities would be limited to normal business hours to the extent possible
Cultural Resources	The proposed action would cause an adverse effect on an	SHPO concurred July 8, 2011 that stipulations as outlined in the

**COTTONWOOD CREEK FLOOD MITIGATION PROJECT
SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT**

	historic property (Main Street Bridge). The 2 nd Street Bridge was determined not eligible for listing in the NRHP.	March 27, 2008 Memorandum of Agreement (MOA) have been completed and the 2 nd street Bridge is not eligible for listing in the Register.
--	--	---

4.1 Geology, Topography, and Soils

Deer Lodge is located at the bottom of the drainage basin for Cottonwood Creek. Surface elevations in the drainage basin range from 4,500 to 8,500 feet. The lower elevations are rolling grasslands and the upper elevations are forested. Annual precipitation in Deer Lodge averages slightly more than 10 inches. Soils in the area are loam, ranging from clay loams to sandy and gravelly loams. Several of the soil types have been identified as prime farmland. However, Deer Lodge is currently developed as urban land, so the soil types no longer have any agricultural significance. The land in the immediate vicinity of the bridges consists of mostly flat terrain with residential lawns, buildings, and city streets.

The National Pollutant Discharge Elimination System (NPDES) is a U.S. Environmental Protection Agency (EPA) storm water program that requires operators of construction sites one acre or larger (including smaller sites that are part of a larger common plan of development) to obtain authorization to discharge storm water under an NPDES construction storm water permit. NPDES permit requirements include submittal of a Storm water Pollution Prevention Plan (SWPPP) that outlines the temporary and permanent Best Management Practices (BMPs) that will be used to prevent erosion and the transport of sediment off-site during and after construction activities (i.e., mulching, revegetating bare soils, silt fence, etc.).

Alternative 1: No Action Alternative – Under the No Action Alternative, the proposed bridge replacements and drainage improvements would not occur; therefore, no impacts to geology, topography, or soils would occur.

Alternative 2: Proposed Action Alternative – Only minor impacts to soil or topography would be expected from the implementation of Alternative 2. Removal and replacement of bridges would result in temporary soil disturbances. The channel has previously been widened upstream of the Main and 2nd Street bridges in those areas that were constricted. Additional widening would be conducted in the areas of 2nd and Main Streets. The bridge structures themselves would include abutments with driven piling foundations, and wing walls. The projects (removal, reconstruction and channel improvements) would impact a total of approximately 350 linear feet on both banks of Cottonwood Creek.

Impacts to soils would occur during construction due to the potential for erosion. Because the area of ground disturbance would be less than one acre, the applicant would not be required to obtain an NPDES permit from MDEQ and submit a SWPPP. Soils on the proposed project site are not classified as prime or unique farmland.

4.2 Hydrology/Water Quality

Deer Lodge is located at the terminus of Cottonwood Creek's 45.4 square mile drainage basin. East of town, at I-90, 1,300 cfs pass through two culverts under I-90 and into the Cottonwood Creek channel. The FEMA Flood Insurance Study, 1994, used a discharge rate of 1,140 cfs for the 100-year event. Per current engineering, the proposed wider bridge openings and channel improvements would convey approximately 833 cfs and 900 cfs (2nd Street Bridge) to handle the 50-year flood event and reduce flooding from the 100-year event, thereby reducing flooding along the Cottonwood Creek channel.

Cottonwood Creek flows west and empties into the Clark Fork River approximately one-half mile west of 1st Street in Deer Lodge. Following decades of mine waste deposits in Silver Bow Creek, part of the headwaters of the Clark Fork River, the water quality of the Upper Clark Fork has been severely affected. Restoration efforts are continuing on the Upper Clark Fork following the 1983 designation as an EPA Superfund Site.

The Clean Water Act (CWA), as amended in 1977, established the basic framework for regulating discharges of pollutants into the waters of the United States. The U.S. Army Corps of Engineers (USACE) regulates the discharge of dredged or filled material into waters of the U.S., including wetlands, pursuant to Section 404 of the Clean Water Act. Additionally, Executive Order (EO) 11990 (Protection of Wetlands) requires federal agencies to avoid, to the extent possible, adverse impact of wetlands.

No Action Alternative – Under the No Action Alternative, flooding along the Cottonwood Creek would continue. Continued constriction of the channel would increase the chances of adverse effects to the floodplain, and structures within the adjacent area. Runoff caused by flooding carries silt and debris, which would ultimately affect water quality in Cottonwood Creek and downstream into the Clark Fork River.

Proposed Action Alternative – Under the Proposed Action Alternative, the removal and replacement of the 2nd and Main Street bridges would continue the ongoing efforts to increase flow capacity of the Cottonwood Creek in Deer Lodge. Drainage patterns in Deer Lodge following implementation of Alternative 2 would be confined to the normal stream channel and represent a return to previously disrupted historical patterns. Surface water quality over the long-term would be improved by reducing silt and debris caused by flooding.

USACE correspondence with the applicant's engineering firm (Great West Engineering) regarding the 2nd Street Bridge dated March 19, 2008 indicated: "this office is unable to ascertain jurisdictional authority at this time. Please be advised that if no fill material will be placed either temporarily or permanently in a water of the United States, no Department of Army permit is required for this project." USACE correspondence dated July 20, 2006 noted improvements to Clark, Clagett, and 4th Street bridges were authorized by Nationwide Permit 14. USACE correspondence dated November 16, 2006 authorizes repair to an existing retaining wall under Nationwide Permit 3.

COTTONWOOD CREEK FLOOD MITIGATION PROJECT SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

Because work with 2nd and Main Streets, as well as associated channel improvements would be performed within the stream channel, the proposed action would affect waters of the U.S. After final design for the bridges and channel improvements is complete, the sub-applicant (Powell County and the City of Deer Lodge) must apply to USACE for the appropriate permit. The sub-applicants and their contractor(s) would be required to follow any applicable conditions (General, Regional, etc). If, after final design, the an individual permit is required, the applicant must inform FEMA and insure all conditions of the 404 permit are followed.

The construction work associated with Alternative 2 would also temporarily increase turbidity. A Short-Term Water Quality Standard for Turbidity (318) authorization would likely also be required from the Montana Department of Environmental Quality (DEQ) because of construction activity may cause short-term effects to water quality standards.

The Clark Fork River is a designated Superfund Site and restoration efforts continue along the entire length of the river. The 2006 Environmental Assessment references conversations with the EPA Region VIII Office in Denver. Those discussions indicated the proposed actions would not affect the restoration efforts on the Clark Fork River, and furthermore that a permit would not be required. The additional flow from the improved channel would not likely cause additional impacts to water quality. The EPA requested, and will be provided a copy of the EA.

4.3 Floodplains

EO 11988 (Floodplain Management) requires that a Federal agency avoid direct or indirect support of development within the 100-year floodplain whenever there is a practicable alternative. FEMA uses Flood Insurance Rate Maps (FIRMs) to identify the regulatory 100-year floodplain for the National Flood Insurance Program (NFIP). Deer Lodge is a participant in the NFIP.

Consistent with EO 11988, FIRMs were examined during the preparation of this Supplemental EA. The project area is located on the Deer Lodge /Powell Co FIRM with Community Panel Number 3000600001B, dated April 15, 1981; the proposed drainage improvements and bridge replacements are located in a designated 100-year floodplain (1% annual chance of flooding).

To ensure compliance with EO 11988, Protection of Floodplains, FEMA uses an 8-Step Decision-Making Process, including considering alternatives to construction in a floodplain. The intent of EO 11988 is to minimize occupancy of and modification to floodplains. By its very nature, the NEPA compliance process involves the same basic decision-making process to meet its objectives.

No Action Alternative – Under the No Action Alternative, the constriction of the Cottonwood Creek corridor will continue, producing an increased chance of negative

floodplain impacts in the future.

Proposed Action Alternative – Under the Proposed Action Alternative, FEMA determined there is no practicable alternative to solving the flooding problems along Cottonwood Creek without construction within a floodplain. Drainage systems and bridges are functionally dependent on placement near water. Adequate opportunity for public involvement was provided as part of the EO 11988 compliance process for the original project. Because of construction in the floodplain, a Floodplain Development Permit would be required for the 2nd Street Bridge work. The Main Street Bridge project, as well as previous work along the Cottonwood Creek was permitted through this process. According to NFIP regulations as outlined in 44 CFR 65.3, a community must notify the local floodplain administrator of any changes made to the floodplain within six months. This proposed action would require Deer Lodge to apply to FEMA for a Letter of Map Revision (LOMR) to document changes to the 100-year floodplain, and for FEMA to determine whether a map revision is justified.

4.4 Biological Resources

Wetlands provide significant ecological functions and possess aesthetic and recreational values. Executive Order 11990 (EO 11990), Protection of Wetlands, requires federal agencies to take action to minimize the loss of wetlands and to identify and evaluate practicable alternatives to locating the proposed action in a wetland. A review of the National Wetlands Inventory (NWI) mapper indicates wetlands are present downstream of the project area, but will not be impacted by the proposed project. Jurisdictional wetlands are considered waters of the U.S., and as such, are regulated by the USACE. If potential wetland impacts are identified, a permit from the Corps for activities regulated under Section 404 of the Clean Water Act and mitigation measures determined by the USACE may be required.

The U.S. Fish and Wildlife Service (USFWS) has responsibility under a number of authorities for conservation and management of fish and wildlife resources. Among those authorities, the Endangered Species Act (ESA) of 1973 establishes a federal program to conserve, protect, and restore threatened and endangered plants and animals – as well as their critical habitat. All federal agencies must insure any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of an endangered or threatened species, or result in the destruction of critical habitat for these species. If the federal agency determines the action “may effect” a listed species, the responsible federal agency must request formal Section 7 consultation with the USFWS.

As of May 2011, USFWS lists the following federally endangered (E) and threatened (T) animal species for Powell County, Montana.

**COTTONWOOD CREEK FLOOD MITIGATION PROJECT
SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT**

SCIENTIFIC NAME	COMMON NAME	STATUS
<i>Ursus arctos horribilis</i>	Grizzly Bear	LT
<i>Lynx canadensis</i>	Canada Lynx	LT, CH
<i>Salvelinus confluentus</i>	Bull Trout	LT, CH, PCH
<i>Canis lupus</i>	Gray Wolf	LE, XN
<i>Anthus spragueii</i>	Sprague's Pipit	C
<i>Gulo gulo luscus</i>	Wolverine	C
C = Candidate; PCH = Proposed Critical Habitat; LT = Listed Threatened; CH = Designated Critical Habitat; LE = Listed Endangered; P = Proposed		

Grizzly Bears are primarily located in areas identified as Recovery Zones (in Powell County, that includes the “U.S.A. experimental non-essential” zone and the “Cabinet-Yaak Recovery Zone Population”). Canada Lynx prefer boreal forest landscapes near snowshoe hares; abundant large, woody debris piles; and/or areas where winter snow conditions are generally deep and fluffy. Gray Wolves flourish in a wide range of habitat including: temperate forests, mountains, tundra, taiga, and grasslands. Sprague’s Pipits thrive in grassland habitat for both breeding and wintering. Wolverines occur within a wide variety of habitats, primarily boreal forests, tundra, and western mountains. Bull Trout are a cold-water fish of relatively pristine stream and lake habitats.

No Action Alternative – The No Action Alternative would not have any impact to wetlands, because no construction activities would occur. It would also not have any impact on fish and aquatic resources as well as threatened or endangered species.

Proposed Action Alternative – A review of Alternative 2 was performed pursuant to EO 11988. A site visit cited in the 2006 Environmental Assessment produced no signs of wetland vegetation. The majority of the proposed drainage improvements/bridge replacements and associated road work would be constructed in previously disturbed areas along roads or within existing right-of-ways; however, limited vegetation removal would occur along channels adjacent to the roadways.

In a letter concerning the Main, 4th, Clark, and Clagett Street bridges dated March 25, 2002, the USFWS stated “no federally listed species or designated critical habitat occurs within the project area. Considering the specific scope, nature and location of construction activities as described... we do not anticipate any project related adverse impacts to threatened, endangered, proposed or candidate species, or any critical habitat.”

Regarding the 2nd Street Bridge, a correspondence from the USFWS dated April 7, 2008 notes: “The only federally-listed T/E species that may occur in the vicinity... is the threatened bull trout (*Salvelinus confluentus*). In addition, critical habitat for bull trout has been designated in this area... the Service believes that project-related effects to bull trout and/or bull trout critical habitat could occur.” The USFWS goes on to recommend the use of a single/clear-span bridge to facilitate long-term fish passage, as well as

minimal disturbance to the stream channel during construction – with as much work “in the dry” as possible. USFWS advises impacts to bull trout would be reduced if any necessary in-stream activities were conducted only during the summer flow period. The proposed 2nd Street Bridge is a concrete, free-span structure, as recommended in the USFWS letter.

Correspondence was sent to the USFWS May 26, 2011, updating the project scope of work to include the 2nd and Main Street bridges, as well as associated drainage channel and road work. In that correspondence, because of the preferred habitat of listed species and the biological profiles of the proposed project area, as well as the use of a single-span structure, FEMA determined the projects “may affect, but are not likely to adversely affect” listed species. The USFWS response on September 2, 2011 concurred with the NLAA determination.

4.5 Transportation

The Montana Department of Transportation (MDT) owns the Main Street Bridge, which is a major North-South I-90 business route through the City. The City of Deer Lodge owns the 2nd Street Bridge, which provides a back-up emergency route in the event the Main Street Bridge is unavailable.

No Action Alternative – Under the No Action Alternative the proposed bridge replacements would not occur and no changes to traffic would occur.

Proposed Action Alternative – Short-term impacts to local traffic circulation and volume would be expected for Alternative 2. Traffic would be detoured to other routes during demolition and construction activities at each bridge site. Upstream, the 4th Street, 5th Street, Clark Street, and Clagett Street bridges could be used as alternate routes. Construction at each bridge site would result in approximately 60-days of road closure. None of the improvements associated with the construction of the proposed action would have any long-term impacts on traffic circulation or volume.

4.6 Environmental Justice

EO 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations) requires federal agencies. Agencies are required to identify and correct programs, policies, and activities that have disproportionately high and adverse human health or environmental effects on minority and low-income populations.

Serving as the county seat of Powell County, Deer Lodge is the primary provider of social and retail services, government, and educational services. The estimated 2005-2009 Census population for Deer Lodge reveals a population of 3,465. Powell County identifies approximately 9% of its population as ethnic minorities. About 13.5% of Powell County populations are identified as living below the poverty level.

No Action Alternative – Under the No Action Alternative, the proposed drainage improvements/bridge replacements would not be constructed; therefore, all populations continue to be negatively impacted by flooding.

Proposed Action Alternative – It is assumed some population living along the proposed construction area of Cottonwood Creek could be minority or low-income. Under the Proposed Action Alternative, no adverse impacts on minority or low-income populations are anticipated. Implementation of the Proposed Action Alternative would provide relief from flooding, which would benefit all populations in the watershed equally.

4.7 Air Quality

Under the Clean Air Act, the EPA establishes primary and secondary air quality standards. Primary air quality standards protect the public health, including the health of “sensitive populations, such as people with asthma, children, and older adults.” Secondary air quality standards protect public welfare by promoting ecosystems health, preventing decreased visibility, and damage to crops and buildings.

No Action Alternative – Under the No Action Alternative the proposed drainage improvements/bridge replacements would not be constructed; therefore, no impacts to air quality would occur.

Proposed Action Alternative – Under the Proposed Action Alternative, short-term impacts to air quality are anticipated to occur during construction – mainly due to construction dust and equipment fumes. Powell County is considered an Attainment/Unclassified area meaning that existing concentrations of air pollutants are below the established standards, and limited increases in emissions are allowable. Therefore, no long-term negative impacts to air quality would be generated by this alternative.

4.8 Noise

Noise factors near the proposed project site are associated with transportation noise (traffic on existing roads), homeowner use, and recreational use along Cottonwood Creek. There are several residences, commercial properties and offices within the area of the proposed construction.

No action Alternative – Under the No Action Alternative, there would be no increase in noise levels because no construction activities would occur.

Proposed Action Alternative – Under the Proposed Action Alternative, noise would temporarily increase during construction activities in the immediate area of bridge replacements and channel improvements. To prevent potential noise disturbances to the community, construction activities would be limited to normal business hours to the extent possible.

4.9 Cultural Resources

Section 106 of the National Historic Preservation Act, as amended, and implemented by 36 CFR Part 800, requires federal agencies to consider the effects of their actions on historic properties and provide the Advisory Council on Historic Preservation an opportunity to comment on federal projects prior to implementation. Historic properties are defined as archeological sites, standing structures, or other historic resources listed in or eligible for listing in the National Register of Historic Places. The Section 106 process consists of steps for 1) Identify and evaluate historic properties; 2) Assess the effects of an undertaking on historic properties; and 3) Consult on methods to avoid, minimize, or mitigate any adverse effects.

Since the publication of the original Environmental Assessment in 2006, the Deer Lodge Central Business Historic District has been listed in the National Register of Historic Places (listed August 2008) (roughly bounded by Cottonwood Avenue to the north, Montana Avenue to the south, 2nd Street to the west, and 4th Street to the east). This district is approximately 2 blocks to the south of the bridge replacements.

No Action Alternative – Under the No Action Alternative, no construction activities would be initiated. However, the absence of flood control on the Cottonwood Creek (along with previous improvements to the 4th Street, Clark Street, and Clagget Street bridges), could contribute to a bottleneck at the Main Street Bridge structure – thereby increasing the chance for flooding to impact the newly-listed Deer Lodge Central Business Historic District.

Proposed Action Alternative – The undertaking is located in the NW ¼, SE ¼, SE ¼ of Section 33, Township 8 North, Range 9 West, Powell County, in the town of Deer Lodge, Montana, running along Cottonwood Creek downstream of the Clark Fork River. The undertaking would remove and replace two street bridges: 2nd and Main Street. Previous improvements along the channel include the replacement of the 4th Street, Clark Street, and Claggett Street bridges. Cumulatively, the Area of Potential Effect (APE) includes a 100-foot wide area along both banks of the Cottonwood Creek from I-90 on the east to the confluence with the Clark Fork River on the west.

The Main Street Bridge (historically referred to as the Cottonwood Creek Bridge) was determined eligible for the NRHP. It was identified as one of ninety reinforced concrete structures built by the Montana State Highway Commission from 1930-1933. It was funded by the federal government as an emergency project in an early attempt to relieve the effects of the Great Depression on the Montana economy. The 2006 EA cites the bridge as having an “excellent integrity of design, materials, and workmanship” as well as being a good representative of the type.

Because the Cottonwood Creek Bridge is eligible for listing on the NRHP, and the proposed action would cause an adverse effect on an historic property, FEMA initiated Section 106 consultation with the Advisory Council on Historic Preservation (Council), the Montana State Historic Preservation Officer (SHPO), and other interested parties

COTTONWOOD CREEK FLOOD MITIGATION PROJECT SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

regarding the adverse effect during the formulation phase of the 2006 EA. As a result of the consultation of adverse effect, a Memorandum of Agreement (MOA) was finalized by the signatories on March 27, 2008.

The original MOA for the Cottonwood Creek Bridge stipulated mitigation measures to be implemented as a result of the loss of the bridge. Specifically, the 2008 MOA required: 1) Replication of the historic bridge side panel features on the replacement bridge; 2) Use of the existing four lamp posts located on the current bridge or replacement of the four lamp posts with those that closely replicate the existing posts; and 3) Off-site mitigation to include the evaluation of approximately 51 historic properties for a proposed Deer Lodge Main Street Historic District for nomination to the NRHP. On July 18, 2011, Montana SHPO concurred that the current design plans meets all stipulations in the original Memorandum of Agreement (MOA) finalized March 27, 2008. All original mitigation measures and project conditions apply.

The 2nd Street Bridge was constructed in 1952. On July 18, 2011, Montana SHPO concurred that the bridge was not eligible for listing on the NHRP. Therefore, there are no historic properties affected by the project.

The Grant-Kohrs Ranch, a National Historic Landmark, abuts Cottonwood Creek approximately one-half mile downstream from 1st Street to the Clark River and is considered within the APE. Prior to the 2006 EA, FEMA, in consultation with the NPS, performed additional hydrology and added a project component at the Ranch boundary with Cottonwood Creek (embankment revetment between the railroad bridges) in order to avoid any potential impact to the Grant-Kohrs Ranch from the project.

If, during construction, any bones, artifacts, foundations, or any other indication of past human occupation would be discovered, construction would stop and the SHPO and FEMA's Region VIII Environmental Officer would be contacted. Construction would not resume until appropriate coordination had been completed.

5.0 CUMULATIVE IMPACTS

In accordance with NEPA and to the extent reasonable and practical, this EA considered the combined effect of the Proposed Action Alternative and other actions occurring or proposed in the vicinity of the proposed project site. No significant cumulative impacts were identified.

6.0 PUBLIC INVOLVEMENT

FEMA is the lead federal agency for conducting the NEPA compliance process for the drainage improvements and bridge replacements in Deer Lodge, Montana. It is the goal of the lead agency to expedite the preparation and review of NEPA documents and to be responsive to the needs of the community and the purpose and need of the proposed action while meeting the intent of NEPA and complying with all NEPA provisions.

COTTONWOOD CREEK FLOOD MITIGATION PROJECT SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

The public has been duly notified about the ongoing Cottonwood Creek flood mitigation project and has been intensely involved and supportive throughout the entire process. Letters were mailed to local businesses as well as area residents. Concerned citizens responded with support. Public hearings were held in Deer Lodge on March 18 and April 21, 2008 in the Commissioner's Office at the Powell County Courthouse during a regular business session. All hearings were advertised in the local newspaper. All meeting venues are ADA accessible. No objections were expressed at the hearings. Minutes from the hearings as well as the public hearing notices are available on request. This amendment does not substantively change the goals or potential impacts identified in the original EA.

7.0 AGENCY COORDINATION AND PERMITS

The following agencies and organizations were contacted by a letter requesting project review during the preparation of this SEA. Replies received to date are in the Appendix.

Montana State Historic Preservation Officer (SHPO)
Montana Department of Environmental Quality (DEQ)
U.S. Army Corps of Engineers (USACE)
U.S. Fish and Wildlife Service (USFWS)

In accordance with applicable local, state, and federal regulations, the applicant would be responsible for acquiring any necessary permits prior to commencing construction at the proposed project site.

8.0 CONCLUSIONS

The project description and components listed in the FONSI dated May 26, 2009 remain the same. The impacts of those components are generally either the same, reduced or eliminated. Only minor temporary impacts to geology, transportation, air quality, and noise are anticipated. Short-term impacts require conditions to minimize and mitigate the proposed project site and surrounding areas. Potential impacts to hydrology/water quality would require permits from the USACE and MDEQ. Floodplain impacts would require coordination and permitting from the local floodplain administrator. Impacts to biological resources would be minimized by the channel improvements. There will be no impacts to Threatened or Endangered species or their designated critical habitat. There would be limited vegetation removal along the project corridor, which is mostly disturbed and follows existing rights-of-way. Stipulations listed in the MOA have addressed the adverse effect to the historic Main Street Bridge. The proposed alternative poses no negative impacts to environmental justice. The public has been duly notified about the ongoing Cottonwood Creek flood mitigation project and this amendment does not substantively change the goals or potential impacts identified in the original EA

8.1 MITIGATIONS AND STIPULATIONS

The mitigations and stipulations listed in the original 2006 FONSI are still valid. Each

COTTONWOOD CREEK FLOOD MITIGATION PROJECT SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

item is listed below. Various permits and authorizations should have been obtained during the replacement of Clark, Clagett, and 4th Street bridges, as well as channel improvements. Current or additional permits and authorizations have been or will be obtained for the new work. Verification will be required at project close-out.

1. A floodplain development permit to cover the entire scope of work must be obtained prior to construction.
2. A Department of the Army 404 permit must be obtained prior to construction; all conditions of the permits must be followed.
3. Coordination with the Montana Department of Environmental Quality is required prior to construction to obtain a Short-Term Water Quality Standard for Turbidity (318) authorization; if possible the proposed action would be constructed during low water periods.
4. All mitigation measures outlined in the Cottonwood Creek Bridge Memorandum of Agreement dated July, 2005 must be carried out by all signatories.
5. The applicant must provide additional engineering activities prior to construction to determine adequate protection for mitigating the Grant-Kohrs Ranch property boundary:
 - Complete a detailed Land Survey of the channel between the two railroad bridges such that the hydraulic capacity of the stream channel as estimated in the Technical Memorandum dated September 22, 2005 and attached to the EA can be confirmed.
 - Generate a new stream bottom and bank configuration that will adequately pass the 100-year storm event in the area between the railroad bridges.
 - Design the new stream and bank configuration using a Professional Engineer in Montana with review and concurrence on the design from the NPS hydrologist.
6. Debris would be disposed of in a manner approved by the Powell County Sanitation Department.
7. All disturbed areas would be re-vegetated or re-surfaced once construction has been completed.
8. Bridge and road construction activities would be performed in existing road right-of-ways.
9. The County must apply to FEMA for a LOMR within six-months after project construction.
10. If cultural resources are encountered, work would be stopped until appropriate coordination has been completed with FEMA and Montana State Historic Preservation Officer.

COTTONWOOD CREEK FLOOD MITIGATION PROJECT SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

9.0 REFERENCES

Federal Emergency Management Agency (FEMA). April 15, 1981. Flood Insurance Rate Map (FIRM) Deer Lodge, Cty/Powell Co Panel 3000600001B.

FEMA. 2006. *Final Environmental Assessment: Bridge Replacements and Channel Improvements on Cottonwood Creek in Deer Lodge, Powell County, Montana*. Technical Report prepared by Shands, Gail, and Donna Tucker.

Flood Hazard Mitigation Plan for Cottonwood Creek Located in Deer Lodge and Powell County, Montana. April 2001. Northland Engineering and Surveying.

HMGP Project Application, FEMA-1767-DR-MT, Project 9R titled "Second Street Bridge." Powell County, City of Deer Lodge. 2009.

HMGP Project Application, FEMA-1350-DR-MT, Project 6R titled "4th Street Bridge." Powell County, City of Deer Lodge. 2003.

Pre-Disaster Mitigation Project Application FEMA PDMC-PJ-08-CO-2011-0008 titled "Main Street Bridge." Powell County, City of Deer Lodge, 2011.

United States Census Bureau (USCB). 2005-2009 American Community Survey 5-Year Estimates; Data Profile Highlights.

http://factfinder.census.gov/servlet/ACSSAFFFacts?_event=ChangeGeoContext&geo_id=16000US3019825&_geoContext=&_street=&_county=Deer+Lodge&_cityTown=Deer+Lodge&_state=04000US30&_zip=&_lang=en&_sse=on&ActiveGeoDiv=&_useEV=&pctxt=fph&pgsl=010&_submenuId=factsheet_1&ds_name=ACS_2009_5YR_SAFF&_ci_nbr=null&q_r_name=null®=null%3Anull&_keyword=&_industry=

USFWS. January 2011. Endangered, Threatened, Proposed, and Candidate Species: Montana Counties.

http://www.fws.gov/montanafieldoffice/Endangered_Species/Listed_Species/countylist.pdf

10.0 LIST OF PREPARERS

Brandon Bratcher, FEMA Environmental Specialist

Richard Myers, FEMA Deputy Regional Environmental Officer

FEMA Region VIII

DFC, Building 710, Box 25267

Denver, CO 80225-0267

Phone (303) 235-4926

Fax (303) 235-4849

**COTTONWOOD CREEK FLOOD MITIGATION PROJECT
SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT**
