MDT

Montana Department of Transportation
2701 Prospect Avenue
PO Box 201001
Helena MT 59620-1001

Michael T. Tooley, Director
Steve Bullock, Governor

November 20, 2013

Gene Kaufman, Operations Engineer
Federal Highway Administration
585 Shepard Way, Suite 2
Helena, MT 59601-9785

Subject: Categorical Exclusion Re-Evaluation
SF 119 – GR W of Drummond
HSIP 90-3(118)137
Control Number: 7883000

Dear Gene,

Environmental Services has reviewed the above proposed project's impacts and has determined that this proposed project still qualifies as a Categorical Exclusion under the provisions of 23 CFR 771.129(c). The original Programmatic Categorical Exclusion was approved by FHWA on July 23, 2013 and should be in your files. This proposed action also continues to qualify as a categorical exclusion under the provisions of ARM 18.2.261 (Sections 75-1-103 and 75-1-201, M.C.A.). This determination is based on the following information.

The Scope-of-Work for the proposed project has been reviewed and the project limits have changed. The original project scope includes installation of concrete barrier rail in the narrow medial separating eastbound and westbound lanes from RP 136.66 to 137.2; along with guardrail along the eastbound outside shoulder from 137.1 to 137.21. The change will extend the project limits to RP 137.35 to include replacement of 800 feet of existing guardrail along the eastbound outside shoulder that doesn't meet current height requirements. The revised project limits will be RP 136.66 to 137.35. Enclosed is the amended Scope of Work Report revised on October 22, 2013.

As a result of these changes, we have reviewed the biological, cultural, hazardous waste etc. reports and found that in accordance with 23 CFR 771.117(a), this action will still neither individually or cumulatively, have any significant environmental impacts.

In accordance with the Federal Highway Administration's (FHWA) concurrence letter of April 15, 1999, this notification documents that this proposed action is still properly classified as a CE under the provisions of 23 CFR 771.117(d).

Sincerely,

Heidy Bruner

Heidy Bruner, P.E.
Engineering Section Supervisor
Environmental Services Bureau

Attachment

Copy:	Ed Toavs, P.E.	Missoula District Administrator
	Paul R. Ferry, P.E.	Highways Engineer
	Bill Squires, P.E.	Project Design Manager
	Tom S. Martin, P.E.	Environmental Services Bureau Chief
	Heidy Bruner, P.E.	Environmental Services Bureau
	Suzy Price	Contract Plans Bureau Chief
	Lisa Hurley	Fiscal Programming Section Supervisor
	Susan Kilcrease	Environmental Services Bureau
	File	Environmental Services Bureau
	Montana Legislative Branch Environmental Quality Council (EQC)	

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Montana Department of Transport
PO Box 201001
Helena, MT 59620-1001

Environmental Services
Date 11/14
Routing
Susan
Pat
JDW
Aaron

Memorandum

To: James A. Walther, P.E. - Engineering
Preconstruction Engineer

From: Damian M. Krings, PE DMK
Road Design Engineer

Date: October 30, 2013

Subject: HSIP 90-3(118)137
SF 119 - GR W of Drummond
UPN 7883000
Work Type: 310 Roadway and Roadside Safety Improvements HSIP 36-1(25)3

We hereby request approval to amend the scope of work, which was originally approved on October 11, 2013. The original scope includes installation of concrete barrier rail (CBR) in the narrow median separating eastbound and west bound lanes from RP 136.66 to 137.2±; along with guardrail along the eastbound outside shoulder from RP 137.1± to 137.21.

We propose to extend the project limits to RP 137.35 to include replacement of 800 feet of existing guardrail along the eastbound outside shoulder that doesn't meet current height requirements. The revised project limits will be RP 136.66 to 137.35 (Station 150+08 to 186+23). The project length will increase from 0.55 to 0.68 miles.

Here is the cost estimate from the October 10th scope of work report:

	Estimated cost	Inflation (INF) (from PPMS)	TOTAL costs w/INF + IDC (from PPMS)
Road Work	$ 200,400		
New Structure	-		
Remove Structure	-		
Detour	-		
Linear Delineation	$ 20,000		
Subtotal	**$ 220,400**		
Traffic Control	$ 24,000		
Subtotal	**$ 244,400**		
Mobilization (14%)	$ 34,200		
Subtotal	**$ 278,600**		
Contingencies (10%)	$ 27,900		
Total CN	**$ 306,500**	**$ 42,070**	**$ 380,360**
CE (10%)	**$ 30,700**	**$ 4,214**	**$ 38,098**
TOTAL CN+CE	**$ 337,200**	**$ 46,284**	**$ 418,458**

REV 9/30/10

DOUBLE SIDED

Here is the new cost estimate, based on the revised scope of work:

	Estimated cost	Inflation (INF) (from PPMS)	TOTAL costs w/INF + IDC (from PPMS)
Road Work	$ 219,700		
New Structure	-		
Remove Structure	-		
Detour	-		
Linear Delineation	$ 20,000		
Subtotal	**$ 263,700**		
Traffic Control	$ 24,000		
Subtotal	**$ 263,700**		
Mobilization (14%)	$ 36,900		
Subtotal	**$ 300,600**		
Contingencies (9%)	$ 27,100		
Total CN	**$ 327,700**	**$ 53,043**	**$ 415,467**
CE (10%)	**$ 32,800**	**$ 5,309**	**$ 41,585**
TOTAL CN+CE	**$ 360,500**	**$ 58,352**	**$ 457,4052**

Note: Inflation is calculated in PPMS to the letting date. The project currently has no letting date, so it is assumed to be inside the current TCP and is given a maximum of 5 years until letting. If the project is moved up to a May 2014 letting, the total inflation cost would be reduced to about $800. IDC is calculated at 9.12% for FY 2014

The benefit/cost (B/C) for the project was 13.18 when nominated, based on a construction cost estimate of $268,400. If no additional numerical benefit is assigned to the upgrading of existing guardrail, the B/C drops to 10.79, based on the construction cost estimate of $327,700 listed above.

With your approval we will take all action requested and proceed with the design accordingly.

Approval _____ Date 10/31/13

James A. Walther, P.E.
Preconstruction Engineer

Distribution:

Jim Walther, Engineering, Preconstruction Engineer
Ed Toavs, District Administrator
Kent Barnes, Bridge Engineer
Don Martin, Environmental Services Bureau Chief
Roy Peterson, Traffic and Safety Engineer
Paul Ferry, Highways Engineer
Lyan Zanto, Rail, Transit, & Planning Division Administrator
Jake Goettle, Construction Engineering Services Bureau
Matt Strizich, Materials Engineer
Robert Stapley, Right-of-Way Bureau Chief

cc:

Dawn Stratton, Fiscal Programming Section
William M. Squires Project Design Manager
Damian Krings, Road Design Engineer

REV 9/30/10

e-copies:

Jim Walther, Engineering, Preconstruction Engineer
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Bryce Larsen, Supervisor, Photogrammetry & Survey
Paul Johnson, Project Analysis Bureau
Jean Riley, Planner

MDT
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2701 Prospect Avenue
PO Box 201001
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Michael T. Tooley, Director
Steve Bullock, Governor

RECEIVED
JUL 23 2013
ENVIRONMENTAL

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JUL 19 2013
FHWA
MONTANA DIVISION

July 11, 2013

Kevin L. McLaury
Division Administrator
Federal Highway Administration
585 Shepard Way, Suite 2
Helena, MT 59601-9785

Attention: Gene Kaufman

Subject: Programmatic Categorical Exclusion (PCE) Concurrence Request
SF 119 – GR W of Drummond
HSIP 90-3(118)137
Control Number: 7883000
Work Type: 310 – Roadway and Roadside Safety Improvements

Dear Kevin McLaury:

This submittal requests approval of the above-mentioned proposed project as a Categorical Exclusion under the provisions of 23 CFR 771.117(d) and the Programmatic Agreement as signed by the Montana Department of Transportation (MDT) and the Federal Highway Administration (FHWA) on April 12, 2001. This proposed action also qualifies as a Categorical Exclusion under ARM 18.2.261 (Sections 75-1-103 and 75-1-201, MCA).

The following form provides the documentation required to demonstrate that all of the conditions are satisfied to qualify for a PCE. A copy of the Preliminary Field Review Report is attached. In the following form, "N/A" indicates not applicable; "UNK" indicates unknown.

NOTE: A response in a large box will require additional documentation for a Categorical Exclusion request in accordance with 23 CFR 771.117(d).

	YES	NO	N/A	UNK
1. This proposed project would have (a) significant environmental impact(s) as defined under 23 CFR 771.117(a).	☐	☒	☐	☐
2. This proposed project involves (an) unusual circumstance(s) as described under 23 CFR 771.117(b).	☐	☒	☐	☐
3. This proposed project involves one (or more) of the following situations where:				

	YES	NO	N/A	UNK
A. Right-of-Way, easements, and/or construction permits would be required.	☐	☒	☐	☐
1. The context or degree of the Right-of-Way action would have (a) substantial social, economic, or environmental effect(s).	☐	☒	☐	☐
2. There is a high rate of residential growth in this proposed project's area.	☐	☒	☐	☐
3. There is a high rate of commercial growth in this proposed project's area.	☐	☒	☐	☐
4. Work would be on and/or within approximately 1.6 kilometers (1± mile) of an Indian Reservation.	☐	☒	☐	☐
5. There are parks, recreational, or other properties acquired/improved under *Section 6(f)* of the *1965 National Land & Water Conservation Fund Act* (16 USC 460L, *et seq.*) on or adjacent to proposed the project area.	☐	☒	☐	☐
The use of such *Section 6(f)* sites would be documented and compensated with the appropriate agencies. (*e.g.*: MDFWP, local entities, etc.).	☐	☐	☒	☐
6. Are there any sites either on, or eligible for the National Register of Historic Places with concurrence in determination of eligibility or effect under *Section 106* of the *National Historic Preservation Act* (16 USC 470, *et seq.*) by the State Historic Preservation Office (SHPO), which would be affected by this proposed project.	☐	☒	☐	☐
7. There are parks, recreation sites, school grounds, wildlife refuges, historic sites, historic bridges, or irrigation that might be considered under *Section 4(f)* of the 1966 *US DEPARTMENT OF TRANSPORTATION Act* (49 USC 303) on or adjacent to the project area.	☐	☒	☐	☐
a. The proposed project would not impact the site(s), so a 4(f) evaluation is not necessary.	☐	☐	☒	☐
b. De minimis finding(s) is/are necessary for this project.	☐	☐	☒	☐
c. "Nationwide" Programmatic *Section 4(f)* Evaluation forms for these sites are attached.	☐	☐	☒	☐
d. This proposed project requires a full (*i.e.*: DRAFT & FINAL) *Section 4(f)* Evaluation.	☐	☐	☒	☐

	YES	NO	N/A	UNK
B. The activity would involve work in a streambed, wetland, and/or other waterbody(ies) considered as "waters of the United States" or similar (*e.g.*, "state waters").	☐	☒	☐	☐
1. Conditions set forth in *Section 10* of the *Rivers and Harbors Act* (33 USC 403) and/or *Section 404* under 33 CFR Parts 320-330 of the *Clean Water Act* (33 USC 1251-1376) would be met.	☐	☐	☒	☐
2. Impacts in wetlands, including but not limited to those referenced under Executive Order (E.O.) #11990, and their proposed mitigation would be coordinated with the US Army Corps of Engineers and other Resource Agencies (Federal, State and Tribal) as required for permitting	☐	☐	☒	☐
3. A 124SPA Stream Protection Authorization would be obtained from the MDFWP?	☐	☐	☒	☐
4. There is a delineated floodplain in the proposed project area under FEMA's Floodplain Management criteria.	☒	☐	☐	☐
The water surface at the 100-year flood limit elevation would exceed floodplain management criteria due to an encroachment by the proposed project.	☐	☒	☐	☐
5. Tribal Water Permit would be required.	☐	☒	☐	☐
6. Work would be required in, across, and/or adjacent to a river which is a component of, or proposed for inclusion in Montana's Wild and/or Scenic Rivers system as published by the US Department of Agriculture, or the US Department of the Interior.	☐	☒	☐	☐
The designated National Wild & Scenic River systems in Montana are:				
a. Middle Fork of the Flathead River (headwaters to South Fork confluence).	☐	☐	☒	☐
b. North Fork of the Flathead River (Canadian Border to Middle Fork confluence).	☐	☐	☒	☐
c. South Fork of the Flathead River (headwaters to Hungry Horse Reservoir).	☐	☐	☒	☐
d. Missouri River (Fort Benton to Charles M. Russell National Wildlife Refuge).	☐	☐	☒	☐

	YES	NO	N/A	UNK
In accordance with *Section 7* of the *Wild and Scenic Rivers Act* (16 USC 1271 – 1287), this work would be coordinated and documented with either the Flathead National Forest (Flathead River), or US Bureau of Land Management (Missouri River).	☐	☐	☒	☐
C. This is a "Type I" action as defined under 23 CFR 772.5(h), which typically consists of highway construction on a new location or the physical alteration of an existing route which substantially changes its horizontal or vertical alignments or increases the number of through-traffic lanes.	☐	☒	☐	☐
1. If yes, are there potential noise impacts?	☐	☐	☒	☐
2. A Noise Analysis would be completed.	☐	☐	☒	☐
3. There would be compliance with the provisions of both 23 CFR 772 for FHWA's Noise Impact analyses and MDT's Noise Policy.	☒	☐	☐	☐
D. There would be substantial changes in access control involved with this proposed project.	☐	☒	☐	☐
If yes, would they result in extensive economic and/or social impacts on the affected locations?	☐	☐	☒	☐
E. The use of a temporary road, detour, or ramp closure having the following conditions when the action(s) associated with such facilities:				
1. Provisions would be made for access by local traffic, and be posted for same.	☒	☐	☐	☐
2. Adverse effects to through-traffic dependant businesses would be avoided or minimized.	☒	☐	☐	☐
3. Interference to local events (*e.g.* festivals) would be minimized to all possible extent.	☒	☐	☐	☐
4. Substantial controversy associated with this pending action would be avoided.	☒	☐	☐	☐
F. Hazardous wastes /substances, as defined by the US Environmental Protection Agency (EPA) and/or the Montana Department of Environmental Quality (MDEQ), and/or (a) listed "Superfund" (under *CERCLA* or *CECRA*) site(s) are currently on and/or adjacent to this proposed project.	☐	☒	☐	☐
All reasonable measures would be taken to avoid and/or minimize substantial impacts from same.	☒	☐	☐	☐

	YES	NO	N/A	UNK
G. The Stormwater Discharge conditions (ARM 17.30.1101-1117), including temporary erosion control features for construction would be met.	☒	☐	☐	☐
H. Permanent desirable vegetation with an approved seeding mixture would be established on exposed areas.	☒	☐	☐	☐
I. Documentation of an "invasive species" review to comply with both EO #13112 and the *County Noxious Weed Control Act* (7-22-2152, MCA), including directions as specified by the county(ies) wherein its intended work would be done.	☒	☐	☐	☐
J. There are "Prime" or "Prime if Irrigated" Farmlands designated by the Natural Resources Conservation Service on or adjacent to the proposed project area.	☐	☒	☐	☐
If the proposed work would affect Important Farmlands, then a CPA 106 Farmland Conversion Impact Rating form would be completed in accordance with the *Farmland Protection Policy Act* (7 USC 4201, *et seq.*).	☐	☐	☒	☐
K. Features for the *Americans with Disabilities Act* (PL 101-336) compliance would be included.	☐	☐	☒	☐
L. A written Public Involvement Plan would be completed in accordance with MDT's Public Involvement Handbook.	☒	☐	☐	☐
4. This proposed project complies with the *Clean Air Act*'s *Section 176(c)* (42 USC 7521(a), as amended) under the provisions of 40 CFR 81.327 as it's either in a Montana air quality:				
A. "Unclassifiable/Attainment" area. This proposed project is <u>not</u> covered under the EPA's September 15, 1997 Final Rule on air quality conformity.	☒	☐	☐	☐
and/or				
B. "Nonattainment" area. However, this type of proposed project is either exempted from the conformity determination requirements (under EPA's September 15, 1997 Final Rule), or a conformity determination would be documented in coordination with the responsible agencies (Metropolitan Planning Organizations, MDEQ's Air Resources Management Bureau, etc.).	☐	☐	☒	☐

	YES	NO	N/A	UNK
C. Is this proposed project in a "Class I Air Shed" under 40 CFR 52.1382(c)(2-4) and 40 CFR 81.417? (Northern Cheyenne, Flathead, and Fort Peck Indian Reservations; Glacier and Yellowstone National Parks; Anaconda-Pintlar, Bob Marshall, Cabinet Mountains, Gates of the Mountains, Medicine Lake, Mission Mountain, Red Rock Lakes, Scapegoat, Selway-Bitterroot, and U.L. Bend Wilderness Areas)	☐	☒	☐	☐
5. Federally listed Threatened or Endangered (T/E) Species:				
A. There are recorded occurrences and/or critical habitat in this proposed project's vicinity.	☒	☐	☐	☐
B. Would this proposed project result in a "jeopardy" opinion (under 50 CFR 402) from the Fish & Wildlife Service on any Federally listed T/E Species?	☐	☒	☐	☐

The proposed project would not induce significant land use changes, nor promote unplanned growth. There would be no significant effects on access to adjacent property, nor to present traffic patterns.

This proposed project would not create disproportionately high and/or adverse impacts on the health or environment of minority and/or low-income populations (EO #12898). It also complies with the provisions of *Title VI* of the *Civil Rights Act* of 1964 (42 USC 2000d) under the FHWA's regulations (23 CFR 200).

In accordance with the provisions of 23 CFR 771.117(a), this pending action would not cause any significant individual, secondary, or cumulative environmental impacts. Therefore, the FHWA's concurrence is requested that this proposed project is properly classified as a Categorical Exclusion.

Susan Kilcrease, Date: 7/12/13
Susan Kilcrease - Missoula District Project Development Engineer
MDT Environmental Services Bureau

Concur Heidy Bruner, Date: 7/16/13
Heidy Bruner, P.E. - Engineering Section Supervisor
MDT Environmental Services Bureau

Concur M. R. Kaufman, Date: 7/23/13
Federal Highway Administration

MDT attempts to provide accommodation for any known disability that may interfere with a person participating in any service, program or activity of the Dept. Alternative accessible formats of this information will be provided upon request. For further information, call 406-444-7228 or TTY (800-335-7592), or call Montana Relay at 711.

Attachment: Preliminary Field Review Report (12/03/2012)

Copy (w/o attach.): Ed Toavs Missoula District Administrator

Kent Barnes, P.E.	Bridge Engineer
Tom S. Martin, P.E.	Environmental Services Bureau Chief
Heidy Bruner, P.E.	Environmental Services Bureau
Suzy Price	Contract Plans Bureau Chief
Lisa Hurley	Fiscal Programming Section Supervisor
Tom Erving	Fiscal Programming Section
Robert Stapley	Right-of-Way Bureau Chief
Susan Kilcrease	Environmental Services Bureau
File	Environmental Services Bureau

Montana Legislative Branch Environmental Quality Council (EQC)

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MDT
Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001

MASTER FILE COPY

Memorandum

To: Paul Ferry, PE
Highways Engineer

From: Damian Krings, PE DMK
Road Design Engineer

Date: December 3, 2012

Subject: HSIP 90-3(118)137
SF 119 - GR W of Drummond
UPN 7883000
Work Type: 310 – Roadway and Roadside Safety Improvements

Please approve the attached Preliminary Field Review Report.

Approved _____ Date 12/5/12
Paul Ferry, PE
Highways Engineer

We are requesting comments from those on the distribution list. We will assume their concurrence if we receive no comments within two weeks of the approval date.

Distribution:
Ed Toavs, District Administrator
Kent Barnes, Bridge Engineer
Paul Ferry, Highways Engineer
Roy Peterson, Traffic and Safety Engineer
Robert Stapley, Right-of-Way Bureau Chief
Tom Martin, Environmental Services Bureau Chief
Lynn Zanto, Rail, Transit, & Planning Division Administrator
Jake Goettle, Construction Engineering Services Bureau
Matt Strizich, Materials Engineer

cc:
William M. Squires Project Design Manager
Dawn Stratton, Fiscal Programming Section

e-copies:
Jim Walther, Engineering, Preconstruction Engineer
Lesly Tribelhorn, Highways Design Engineer
Mark Goodman, Hydraulics Engineer
KC Yahvah, District Hydraulics Engineer
Jon Axline, Acting Env. Resources Section Supervisor
Pat Basting ,District Biologist
Susan Kilcrease, District Project Development Engineer
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Bryce Larsen, Supervisor, Photogrammetry & Survey
Paul Johnson, Project Analysis Bureau
Jean Riley, Planner
Dawn Stratton, Fiscal Programming Section

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Introduction

A preliminary field review was held on August 15, 2012. The following MDT staff attended:

William Squires, PE, Missoula Area Engineer, Road Design - Helena
Jeremy Terry, PE, Missoula Design Supervisor, Road Design – Helena
Jonathan Floyd, Safety Project Engineer, Traffic - Safety Management - Helena
Nicole Arrington, Civil Engineering Specialist, Traffic - Safety Management - Helena
Ben Nunnallee, PE, District Projects Engineer - Missoula

Proposed Scope of Work

We propose to enhance roadside safety through the installation of guardrail along a section of Interstate 90 west of Drummond. The Safety Management Section identified the location as a crash cluster, and recommended the proposed work as a cost-effective countermeasure.

Purpose and Need

The purpose of the project is to reduce the number and severity of off-road crashes by shielding the median between eastbound and westbound lanes on one segment, and shielding a non-recoverable embankment along another segment of the eastbound outside shoulder. The project is needed to enhance roadside safety for the traveling public.

Project Location and Limits

The project is on Interstate 90 in Granite County. I 90 is functionally classified as a Principal Arterial – Interstate, and is on the National Highway System. The project begins at Reference Point (RP) 136.66, about 1.4 miles west of the Bearmouth Interchange, and extends easterly 0.55 miles to RP 137.21, about 0.85 miles west of Bearmouth, and about 16.1 miles west of the west Drummond interchange.

The station limits are Station 150+08± to 178+78± on IM 90-3(103)135, Bearmouth – E & W [6869000]. No other locations are being considered. See the attached location map.

Work Zone Safety and Mobility

At this time, Level 2 construction zone impacts are anticipated for this project as defined in the Work Zone Safety and Mobility (WZSM) guidance. The plans package will include a Transportation Management Plan (TMP) consisting mainly of a Traffic Control Plan (TCP). A limited Traffic Operations (TO) component and a limited Public Information (PI) component to address possible interchange ramp closures and wide load detours will also be included in the plan package. These issues are discussed in more detail under the Traffic Control and Public Involvement sections.

Physical Characteristics

The project is in the Clark Fork River valley, bounded on the left (north) side by mountainous terrain, and on the right (south) side by the Burlington Northern Santa Fe Railway, and the Clark Fork River.

The section of I-90 from RP 134.8 to 142.4 was constructed in 1970 under Project I 90-3(14)135. A median separates the eastbound and westbound roadways, each of which consists of two 12-ft. lanes, a 4-ft inside shoulder, and a 10-ft. outside shoulder. The 6:1 inslopes extend at least 15 feet beyond the edge of paved outside shoulder in fill sections before hinging to a steeper slope.

Within the project limits, the median transitions from an open median to a closed median. It begins as a shallow v-ditch with 28 feet between the edges of inside shoulder on a section of tangent horizontal alignment that extends to RP 136.7±. At that point, a 1,763-ft radius curve to the right begins, and the ditch gradually gets shallower, and decreases in width to about 16 feet at the end of the curve at RP 137.06. The curve has an 8% superelevation (according to the as-built plans) which correlates to a 60 mph design speed, per current standards.

The median continues to narrow to a width of 10 feet by the end of the following tangent (RP 137.13). At that point the median is virtually flush, with a surface consisting of gravel and sanding material.

A 1,637.1-ft. radius curve left begins at MP 137.2, and extends beyond the project limits to RP 137.39. This curve is also superelevated at 8%, and has a 60 mph design speed.

The profile begins on a -1.50% grade that transitions to a +0.29% grade via an 800-ft. sag vertical curve. The profile then transitions to a +2.21% grade via another 800-ft. sag. The project ends about 250 feet beyond the beginning of a 1000-ft. crest vertical curve. Stopping sight distance is provided at 70+ mph throughout.

The original surfacing section consisted of 0.35' of Grade B plant mix, 0.20' of crushed top Type A Grade 2; 0.50' of crushed base Type A Grade 5; and 1.00' of crushed base Type A grade 2. The pavement depth on the outside shoulders was tapered from 0.35 feet to 0.175 feet. This reduced the superelevation on the shoulder to about 6%. Subsequent mill/fill projects in 1995 and 2010 left the 10-ft outside shoulders with a superelevation of about 5.2%.

Traffic Data

Here is the traffic data that the Traffic Data Collection & Analysis Section collected for IM 90-3(133)135, Bearmouth – E&W [6869000] in 2009:

2009 AADT	= 8,360 (Present)
2010 AADT	= 8,530 (Letting Date)
2030 AADT	= 12,750 (Design Year)
DHV	= 1,610
Trucks	= 30.9 %
ESAL's	= 1,561 (Daily)
Growth Rate	= 2.0% (Annual)

This data provides enough precision for the clear zone and guardrail design criteria that are traffic-volume dependent.

Crash Analysis

The Safety Management Section provided a summary of the crash information from Montana Highway Patrol records for the section of I-90 from RP 136.5 to 137.2, for the 7½-year period from 2005 through June 30, 2012. There were thirty-six reported crashes, with the main crash trend being single-vehicle-run-off-the-road crashes (23) on a curve. The thirty-six crashes were evenly distributed based on direction of travel (20 westbound and 16 eastbound).

The vehicle overturned in nine of the twenty-three crashes, it struck a guardrail in five crashes, an embankment or ditch in five crashes, a delineator post in three crashes, and the vehicle struck a rock or boulder in one crash.

A secondary crash trend observed was vehicles either entering the median (six crashes) and/or traveling across the median (two crashes) while negotiating a curve.

The benefit-to-cost ratio (B/C) was computed from the crash history from January 1, 2005 through December 31, 2009. Nine crashes of the twenty-one crashes during this period were determined to be correctable by 1) extending to the west the median barrier that currently begins at RP 137.15, and 2) extending to the west the guardrail along the eastbound outside shoulder that currently begins at RP 137.2.

The correctable crashes included two fatal crashes (two fatalities), three injury crashes (four injuries), and four property-damage-only crashes. The proposed safety improvement yielded a B/C of 13.18, assuming a construction cost estimate of $268,400

Major Design Features

The intent will be to design this project to comply with the geometric design criteria for clear zones and guardrail as presented in the Road Design Manual; particularly, Figure 12-2, Geometric Design Criteria for Freeways (National Highway System – Interstate); and Chapter 14, Roadside Safety.

a. **Design Speed.** We propose a design speed of 60 mph, appropriate for a rural interstate highway adjacent to steeply rolling terrain that was a controlling element in the design of the original highway. Design speed will be primarily pertinent in the determination of clear zone widths and in advancement length for guardrail.

   The posted speed limit is 75 mph for cars and light trucks and 65 mph for heavy trucks.

b. **Horizontal Alignment**. No changes are proposed to the horizontal alignment, as described under **Physical Characteristics.**

c. **Vertical Alignment**. No changes are proposed to the vertical alignment, as described under **Physical Characteristics.**

d. **Typical Sections and Surfacing**. Surfacing work will generally be limited to the placement of shoulder gravel in the narrow median from RP 137.06 to RP 137.16 to provide a firm base for the concrete median rail we propose to extend to the west.

e. **Grading**. The only grading will be for guardrail end section widening at two locations. We propose to use the GUARDRAIL END SECTION WIDENING bid item.

f. **Geotechnical Considerations**. There will be no geotechnical considerations.

g. **Hydraulics**. There is an 88" Span x 54" Rise arch pipe cross drain with a median drop inlet at R 136.72. The pipe is far enough below the road surface that it will not be affected by guardrail installation.

h. **Bridges.** There are no bridges within the project limits.

i. **Traffic.** Traffic will be responsible for any signing and delineation items.

j. **Pedestrian/Bicycle/ADA**. There are no dedicated pedestrian/bicycle or ADA facilities, and none are proposed.

k. **Miscellaneous Features**. The main focus of the project will be items usually considered to be miscellaneous, i.e. w-beam steel guardrail and concrete barrier rail. Our preliminary design recommendations are described below:

   Median:

   Remove the existing impact attenuator at RP 137.16± (Station 175+95±) and the first 10-ft. section of existing two-loop concrete barrier rail. Install a 10-ft transition section (two-loop to three-loop), followed by about 540 feet of concrete barrier rail (CBR) that will extend back to RP 137.06± (Sta. 170+69±, near the S.T. of the curve that begins at RP 136.72).

Attach a bridge approach section to the end of the first CBR, followed by about 1,825 feet of steel w-beam rail that will be placed along the edge of the 4-ft. inside shoulder of the eastbound lane. The guardrail will shield the outside of the 1,763-ft radius curve, and will extend an additional 215± feet upstream of the T.S. of the curve to provide adequate advancement length.

Safety Management had recommended CBR along the curve, centered in the narrow median. However, the difference in elevation of the high side of the eastbound edge of shoulder, and the low side of the westbound edge of shoulder precludes the ability to provide a level platform on which to place the CBR.

We propose to place steel w-beam units along the back side of the guardrail, adjacent to the inside of the curve for westbound traffic. The w-beam units will be extended to include attachment to about the first 50 feet of CBR to provide a smooth transition.

Eastbound outside shoulder:

Remove the existing Optional Terminal Section (OTS) at the upstream end of the guardrail run that currently begins at RP 137.2±, the approximate location of the S.C. of the 1,637.1-ft. radius curve. Install about 500 feet of rail (including OTS) to shield the embankment adjacent to the spiral transition of the curve.

Other Projects

There are 47 other District 1 projects in Granite County and in the adjacent counties (Missoula County and Ravalli County). A review of the ready and/or letting dates revealed one project that could provide mutual benefits if tied: HSIP 7-19134)18, SF 119 – GR S of Hamilton [7841000]. That project has a November 2013 letting date. The subject project could be developed in time to tie to [7841000].

Location Hydraulics Study Report

There are no delineated floodplains within the project area that will be impacted. A Location Hydraulics Study Report was not prepared due to the lack of expected drainage impacts or issues.

Design Exceptions

The design exception process does not apply to safety projects. The applicable design elements that do not comply with MDT design criteria (i.e. clear zones, guardrail details, shy distance, etc.) will be discussed in the scope of work report.

Right-of-Way

All work will be within the existing right-of-way, which extends 90± feet to 110 feet from centerline along the eastbound lane outside.

Access Control

There will be no changes to the existing access control along the I-90 corridor.

Utilities/Railroads

There will be no utility involvement.

There should be no railroad involvement. The proposed work should not extend closer than 25 feet from the railroad R/W and no closer than 100± feet from the tracks.

Cold-In-Place Recycle

N/A

Maintenance Items
We will ask Maintenance if they want to salvage the existing impact attenuator at the west end of the existing CBR at RP 137.16. This attenuator was installed in the mid-1990's, and it no longer meets MDT requirements for new installations.

Intelligent Transportation Systems (ITS) Features
No potential ITS solutions have been identified for this project.

Experimental Features
Due to the project's limited scope, we do not anticipate the consideration of experimental features.

Survey
No survey will be required.

Public Involvement
A Level B public involvement plan is proposed. The plan will include one or more of the following steps:

a) A news release describing the proposed scope of work and need for the project will be sent to the local media with a department point of contact.

b) Construction notification and information will be distributed during construction.

The public involvement plan may be adjusted. If controversial issues surface, a public information meeting may be appropriate.

Environmental Considerations
No significant environmental impacts or issues were identified. The review team did not notice any obvious wetlands. It appears a Programmatic Categorical Exclusion will provide the appropriate level of environmental evaluation and documentation.

Energy Savings/Eco-Friendly Considerations
We identified no opportunities for implementing eco-friendly materials or design features.

Traffic Control
Appropriate signing, lane closures, detours, etc. in accordance with the MUTCD, will be used to maintain traffic through construction. Traffic will likely be restricted to one lane in each direction during working hours. During non-working hours it should be possible to restore traffic to two lanes in each direction for most construction activities.

A Transportation Management Plan (TMP) consisting of a Traffic Control Plan (TCP), a limited Transportation Operations (TO) component and a limited Public Information (PI) component is appropriate for this project.

Project Management
Helena Road Design – Missoula Crew will be responsible for developing the plans. Bill Squires is the project manager. See contact information below:

William M. Squires, P.E.
Missoula Area Engineer
Road Design
444-6228
bsquires@mt.gov

This project is not under full FHWA oversight.

Preliminary Cost Estimate

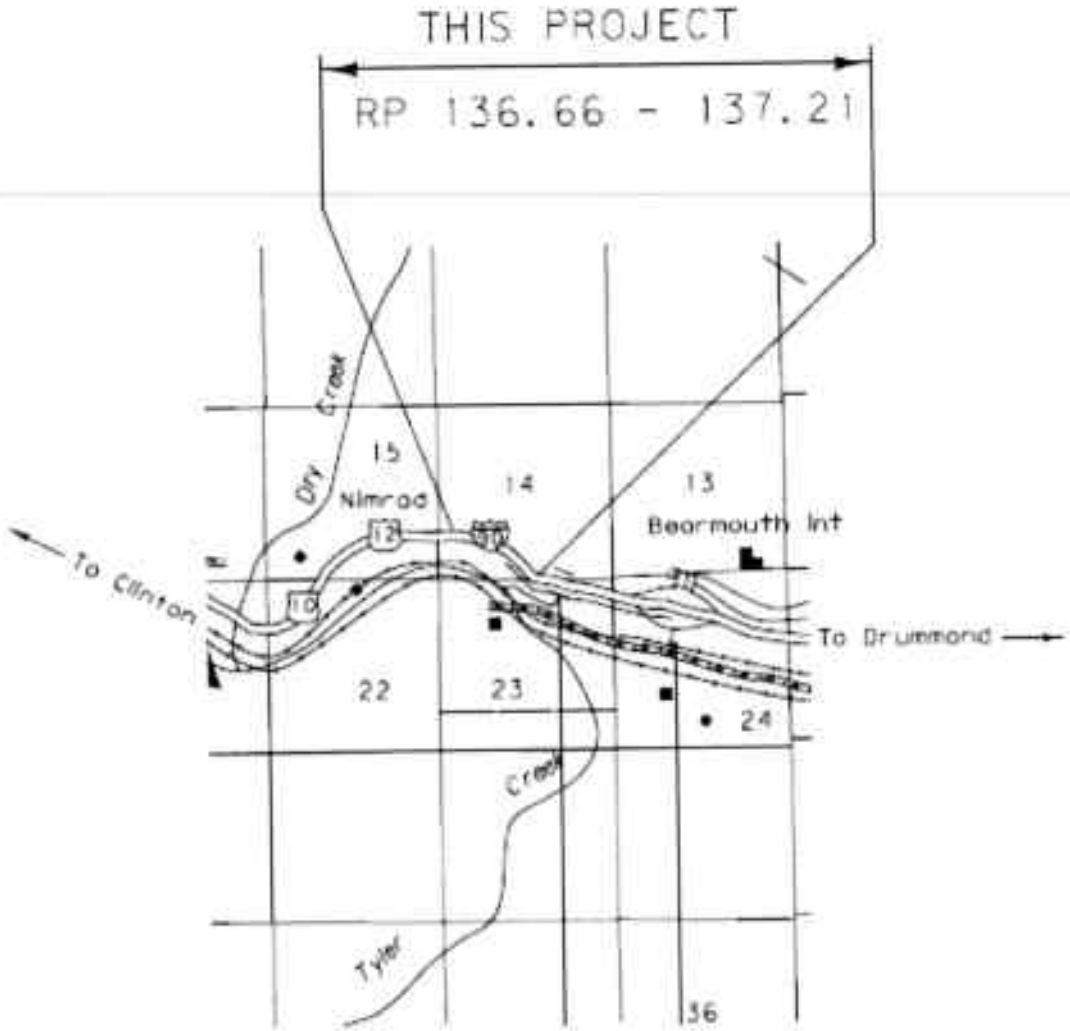
The project was nominated with a construction cost estimate of $268,400 and a construction engineering cost estimate of $27,000. Here is the updated cost estimate, based on close scrutiny of the as-built plans, the Image Viewer, conceptual guardrail design, and bid history of similar projects:

	Estimated cost	Inflation (INF) (from PPMS)	TOTAL costs w/INF + IDC (from PPMS)
Road Work	$ 104,800		
New Structure	-		
Remove Structure	-		
Detour	-		
Traffic Control	$ 20,500		
Subtotal	**$ 125,300**		
Mobilization (14%)	$ 17,500		
Subtotal	**$ 142,800**		
Contingencies (15%)	$ 21,400		
Total CN	**$ 164,200**	**$ 26,237**	**$ 211,537**
CE (10%)	**$ 16,400**	**$ 2,621**	**$ 21,129**
TOTAL CN+CE	**$ 180,600**	**$ 28,858**	**$ 232,666**

Note: Inflation is calculated in PPMS to the letting date. If there is no letting date, the project is assumed to be inside the current TCP and is given a maximum of 5 years until letting. IDC is calculated at 11.08% as of FY 2013.

Ready Date

A ready date has not been assigned to this project yet. As usual, we'll go through the overrides process and then request a ready date. The anticipated let date when the project was programmed was February 2013. As noted under Other Projects, we believe the project could be developed in time for a November 2013 letting.

Site Map

HSIP 90-3(118)137
SF 119 - GR W of DRUMMOND
UPN 7883000
GRANITE COUNTY