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ENVIRONMENTAL

November 1, 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-Slope Flatten S-206  
HSIP 206-1(7)1  
CN 7884000

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).**

	<u>YES</u>	<u>NO</u>	<u>N/A</u>	<u>UNK</u>
1. This proposed project would have (a) significant environmental impact(s) as defined under 23 CFR 771.117(a).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. This proposed project involves (an) unusual circumstance(s) as described under 23 CFR 771.117(b).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. This proposed project involves one (or more) of the following situations where:				
A. Right-of-Way, easements, and/or construction permits would be required.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	<u>YES</u>	<u>NO</u>	<u>N/A</u>	<u>UNK</u>
1. The context or degree of the Right-of-Way action would have (a) substantial social, economic, or environmental effect(s).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. There is a high rate of residential growth in this proposed project's area.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. There is a high rate of commercial growth in this proposed project's area.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Work would be on and/or within approximately 1.6 kilometers (1± mile) of an Indian Reservation.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. There are parks, recreational, or other properties acquired/improved under <i>Section 6(f)</i> of the 1965 <i>National Land &amp; Water Conservation Fund Act</i> (16 USC 460L, <i>et seq.</i> ) on or adjacent to proposed the project area.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The use of such <i>Section 6(f)</i> sites would be documented and compensated with the appropriate agencies. ( <i>e.g.</i> : MDFWP, local entities, etc.).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 <i>Section 106</i> of the <i>National Historic Preservation Act</i> (16 USC 470, <i>et seq.</i> ) by the State Historic Preservation Office (SHPO), which would be affected by this proposed project.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. There are parks, recreation sites, school grounds, wildlife refuges, historic sites, historic bridges, or irrigation that might be considered under <i>Section 4(f)</i> of the 1966 <i>US DEPARTMENT OF TRANSPORTATION Act</i> (49 USC 303) on or adjacent to the project area.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
a. The proposed project would not impact the site(s), so a 4(f) evaluation is not necessary.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. De minimis finding(s) is/are necessary for this project.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. "Nationwide" Programmatic <i>Section 4(f)</i> Evaluation forms for these sites are attached.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. This proposed project requires a full ( <i>i.e.</i> : DRAFT & FINAL) <i>Section 4(f)</i> Evaluation.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B. The activity would involve work in a streambed, wetland, and/or other waterbody(ies) considered as "waters of the United States" or similar ( <i>e.g.</i> , "state waters").	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	<u>YES</u>	<u>NO</u>	<u>N/A</u>	<u>UNK</u>
1. Conditions set forth in <i>Section 10</i> of the <i>Rivers and Harbors Act</i> (33 USC 403) and/or <i>Section 404</i> under 33 CFR Parts 320-330 of the <i>Clean Water Act</i> (33 USC 1251-1376) would be met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. A 124SPA Stream Protection Authorization would be obtained from the MDFWP?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. There is a delineated floodplain in the proposed project area under FEMA's Floodplain Management criteria.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The water surface at the 100-year flood limit elevation would exceed floodplain management criteria due to an encroachment by the proposed project.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5. Tribal Water Permit would be required.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The designated National Wild & Scenic River systems in Montana are:				
a. Middle Fork of the Flathead River (headwaters to South Fork confluence).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. North Fork of the Flathead River (Canadian Border to Middle Fork confluence).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. South Fork of the Flathead River (headwaters to Hungry Horse Reservoir).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Missouri River (Fort Benton to Charles M. Russell National Wildlife Refuge).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
In accordance with <i>Section 7</i> of the <i>Wild and Scenic Rivers Act</i> (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).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	<u>YES</u>	<u>NO</u>	<u>N/A</u>	<u>UNK</u>
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.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1. If yes, are there potential noise impacts?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. A Noise Analysis would be completed.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. There would be compliance with the provisions of both 23 CFR 772 for FHWA's Noise Impact analyses and MDT's Noise Policy.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D. There would be substantial changes in access control involved with this proposed project.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If yes, would they result in extensive economic and/or social impacts on the affected locations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Adverse effects to through-traffic dependant businesses would be avoided or minimized.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Interference to local events ( e.g. festivals) would be minimized to all possible extent.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Substantial controversy associated with this pending action would be avoided.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
All reasonable measures would be taken to avoid and/or minimize substantial impacts from same.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
G. The Stormwater Discharge conditions (ARM 17.30.1101-1117), including temporary erosion control features for construction would be met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
H. Permanent desirable vegetation with an approved seeding mixture would be established on exposed areas.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	<u>YES</u>	<u>NO</u>	<u>N/A</u>	<u>UNK</u>
I. Documentation of an “invasive species” review to comply with both EO #13112 and the <i>County Noxious Weed Control Act</i> (7-22-2152, MCA), including directions as specified by the county(ies) wherein its intended work would be done.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
J. There are “Prime” or “Prime if Irrigated” Farmlands designated by the Natural Resources Conservation Service on or adjacent to the proposed project area.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If the proposed work would affect Important Farmlands, then a CPA 106 Farmland Conversion Impact Rating form would be completed in accordance with the <i>Farmland Protection Policy Act</i> (7 USC 4201, <i>et seq.</i> ).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
K. Features for the <i>Americans with Disabilities Act</i> (PL 101-336) compliance would be included.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
L. A written Public Involvement Plan would be completed in accordance with MDT’s Public Involvement Handbook.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. This proposed project complies with the <i>Clean Air Act’s Section 176(c)</i> (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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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.).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Federally listed Threatened or Endangered (T/E) Species:				
A. There are recorded occurrences and/or critical habitat in this proposed project’s vicinity.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- |  | <u>YES</u>               | <u>NO</u>                           | <u>N/A</u>               | <u>UNK</u>               |
|--|--------------------------|-------------------------------------|--------------------------|--------------------------|
| 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? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

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: 11/1/2013  
Susan Kilcrease - Missoula District Project Development Engineer  
MDT Environmental Services Bureau

Concur Heidy Bruner, Date: 11/5/2013  
Heidy Bruner, P.E. - Engineering Section Supervisor  
MDT Environmental Services Bureau

Concur [Signature], Date: 11/7/2013  
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 (October 1, 2012)

Copy (w/o attach.):	Ed Toavs	Missoula District Administrator
	Paul Ferry, P.E.	Highways 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)



**Memorandum**

To: Paul Ferry, PE  
Highways Engineer

From: Damian Krings, PE *DMK*  
Road Design Engineer

Date: October 1, 2012

Subject: HSIP 206-1(7)1  
SF 119-Slope Flatten S-206  
UPN 7884000  
Work Type: 310 – Roadway and Roadside Safety Improvements

Please approve the attached Preliminary Field Review Report.

Approved *Paul Ferry* Date Oct. 1, 2012  
*for* 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           | Tom Martin, Environmental Services Bureau Chief              |
| Kent Barnes, Bridge Engineer              | Lynn Zanto, Rail, Transit, & Planning Division Administrator |
| Paul Ferry, Highways Engineer             | Jake Goettle, Construction Engineering Services Bureau       |
| Roy Peterson, Traffic and Safety Engineer | Matt Strizich, Materials Engineer                            |
| Robert Stapley, Right-of-Way Bureau Chief |  |

**cc:**

- |   |   |
|---|---|
| William M. Squires Project Design Manager | Dawn Stratton, Fiscal Programming Section |
|---|---|

**e-copies:**

- |  |   |
|--|---|
| Jim Walther, Engineering, Preconstruction Engineer     | Jake Goettle, Construction Bureau – VA Engineer   |
| Lesly Tribelhorn, Highways Design Engineer             | Shane Stack, District Preconstruction             |
| Mark Goodman, Hydraulics Engineer                      | Ben Nunnallee, District Projects Engineer         |
| K.C. Yahvah, District Hydraulics Engineer              | Darin Reynolds, District Materials Lab            |
| Bonnie Gundrum, Env. Resources Section Supervisor      | Gary Engman, , District Maintenance Chief         |
| Pat Basting, District Biologist                        | Maureen Walsh, District Right of Way Supervisor   |
| Susan Kilcrease, District Project Development Engineer | Phillip Inman, Utilities Engineering Manager      |
| Danielle Bolan, Traffic Operations Engineer            | David Hoerning, R/W Engineering Manager           |
| Ivan Ulberg, Traffic Design Engineer                   | Greg Pizzini, Acquisition Manager                 |
| Vacant, District Traffic Project Engineer              | Joe Zody, R/W Access Management Section Manager   |
| Kraig McLeod, Safety Engineer                          | Matt Strizich, Materials Engineer                 |
| Chris Hardan, Bridge Area Engineer, Missoula District  | Daniel Hill, Pavement Analysis Engineer           |
| Vacant, Engineering Cost Analyst                       | Bret Boundy, District Geotechnical Manager        |
| Marty Beatty, Engineering Information Services         | Bryce Larsen, Supervisor, Photogrammetry & Survey |
| Paul Grant, Public Involvement Officer                 | Paul Johnson, Project Analysis Bureau             |
| Sue Sillick, Research Section Supervisor               | Jean Riley, Planner                               |
| Alyce Fisher, Fiscal Programming Section               | Dawn Stratton, Fiscal Programming Section         |
| Mark Keffe, Bicycle/Pedestrian Coordinator             | Wayne Noem, Secondary Roads Engineer              |

## Preliminary Field Review Report

HSIP 206-1(7)1, SF 119-Slope Flatten S-206 UPN 7884000

Project Manager: William M. Squires

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### **Introduction**

A preliminary field review was held on August 16, 2012. The following attended the field review.

William Squires, PE, Missoula Area Engineer, Road Design - Helena  
Jeremy Terry, PE, Missoula Design Supervisor, Road Design – Helena  
Patricia Burke, PE, Safety Project Engineer, Safety Management - Helena  
Ben Nunnallee, PE, District Projects Engineer - Missoula  
James Freyholtz, District Traffic Engineer – Kalispell  
Pat Basting, District Biologist - Missoula

### **Proposed Scope of Work**

We propose to enhance roadside safety through a combination of slope flattening, shoulder widening, mailbox turnouts, and guardrail installation at four locations along Secondary 206 in Flathead County. The Safety Management Section identified the locations as crash clusters, and recommended the proposed work as cost-effective countermeasures.

### **Purpose and Need**

The purpose of the project is to reduce the number and severity of off-road crashes by providing flattened slopes and/or widened shoulders or guardrail where appropriate. The project is needed to enhance roadside safety for the traveling public.

### **Project Location and Limits**

The project includes four separate locations in Flathead County, all on Secondary 206 (functionally classified as a minor arterial). Secondary 206 begins at the junction with MT 35 (P-52), about seven miles east of Kalispell, extend northerly about ten miles, and ends at the junction with US 2 (N-1), about 1.5 miles east of Columbia Falls.

The four locations identified in the project nomination are:

- Location #1: RP 0.7± to RP 1.4± (As-built Station 435+75± to 477+33±)  
(Township 29 N, Range 20 W, Sections 28 and 33)
- Location #2: RP 2.7± to RP 3.2± (As-built Station 541+35± to 4566+85±)  
(Township 29 N, Range 20 W, Sections 16 and 21)
- Location #3: RP 5.6± to RP 6.1± (As-built Station 692+73± to 731+70±)  
(Township 29 N, Range 20 W, Section 4; and Township 30 N, Range 20 W, Section 33)
- Location #4: RP 8.5± to RP 9.0± (As-built Station 844+00± to 878+48±)  
(Township 30 N, Range 20 W, Sections 16 and 21)

The project limits of each of the four locations will be refined as the design develops. In particular, Locations 1 and 2 may be extended to the north and south, respectively, to tie in with the limits of the [5014] slope flattening project. Also, recent crash data indicates Location #3 could be extended about 0.2 miles north to RP 6.3±. The final project limits will be documented in the scope of work report.

### **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, primarily because Secondary 206 is listed as a Level 2 corridor in the guidance. The plans package will include a Transportation Management Plan (TMP),

## Preliminary Field Review Report

consisting mainly of a Traffic Control Plan (TCP). These issues are discussed in more detail under the Traffic Control and Public Involvement sections.

### **Physical Characteristics**

S-206 was originally constructed under NRHP 257-C in 1934. The original construction was a gravel surface and was later paved in 1939 under the same project name. Since then there have been several projects along the route, mostly overlays and safety projects. The paved width is currently 24± feet. The last two projects were a signing project; STPHS 206-1(6)0, Safety Improv.-S of Columbia Heights [3120] completed in 1999; and HSIP-STPE 0002(747), 2001-D1-Slope Flattening/Guardrail [5014], which extended from RP 1.5± to 2.5±, and included slope flattening, mailbox turnouts, and a wildlife underpass with guardrail to shield its ends.

S-206 passes through rolling terrain in a rural area. The roadside development includes moderately frequent residential properties, and a few commercial properties scattered among the pastures and farmland. It appears the road was built using the side borrow-ditch method with steep inslopes, and a deep ditch that does not necessarily convey drainage. The fill slopes vary from very flat (6:1±) to steep (1½:1±). The back slopes are generally 2:1 or steeper in most locations.

Detailed descriptions of each of the four locations follow:

Location # 1(RP 0.7± to 1.4±): The horizontal alignment is on tangent. The profile is fairly level, with grades ranging from -0.52% to + 2.5%. Stopping Sight Distance (SSD) is provided at 60+ mph throughout.

There is a new residential development (“Sweet Grass Ranch”) along the east side that begins south of the location and ends at RP 0.9±. There are two approaches to the ranch within the location limits. Two county roads intersect within the location: Smalls Lane at RP 1.0 (east), and Fairview Crossroad at RP 1.5± (west).

Location #2 (RP 2.7± to 3.2±): The horizontal alignment is virtually on tangent, but the profile includes a 6% upgrade at RP 2.75±, and a 6% downgrade at RP 2.90±. The 700’ crest between them provides SSD at 49 mph. The 600’ sag south of the first 6% grade provides SSD at 54 mph, and the 500’ sag north of the second 6% grade provides it at 46 mph.

On the west side, there are high (20+ feet) fills along both 6% grades, while the top of the crest is mostly in a ditch section with steep backslopes up to about 5 feet high. There are private ‘buttonhook’ approaches along the lower part of both 6% grades that parallel the toe of the fill slopes.

The east side is mostly in a cut section, with backslopes up to 15± feet high. The lower portion of the north 6% grade is in a fill with slopes up to 10± feet high.

Location #3 (RP 5.6± to RP 6.3±): This location is also entirely on tangent, with level grades and ample SSD. It begins about 0.5 miles south of a county road intersection (Trap Road – west, Eckelberry Dr – east), and ends about 0.3 miles north of the intersection. There are three private/farm field approaches along the east side, and ten along the west side.

The roadside ditches have steep inslopes up to about four feet high, a flat bottom about four feet wide, and a steep backslope up to about 3 feet high. The east ditch has a two-track trail along the bottom, an indication that ATV operators use the ditch.

Location #4 (RP 8.5± to 9.0±): This location is on tangent up to RP 8.9±, then is on a 2,865-ft. radius curve right that extends to RP 9.25±. The profile features several short grades that range between -0.83% and +1.00% connected by vertical curves 200 feet or 300 feet long. Sight distance is ample.

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There are public approaches at RP 8.56 (east – name unknown), RP 8.63 (Sunset Blvd - east, Kimberly Lane - west), RP 8.94 (Tallent Lane), and RP 9.06 (Berne Road – east, Rogers Road – west). There are seven private approaches on the east side, and one on the west side.

The ditch along the east side is similar to that described for Location 3, with a two-track trail on the ditch bottom. The west side has a shallow ditch most of the way, but does transition to a low fill along the northerly 0.2± miles.

### **Traffic Data**

The current, letting date, and design year traffic volumes were projected by applying a 2.0% annual growth rate to the 2009 AADT of 4,160 listed in “Traffic by Sections”. The 2.0% assumed annual growth rate appears reasonably conservative, given the fluctuating volumes on S-206 from 2001 through 2009:

2001 = 4,305	2002 = 4,750	2003 = 5,080	2004 = 4,255	
2005 = 4,255	2006 = 4,395	2007 = 4,575	2008 = 4,305	2009 = 4,160

2012 ADT: 4,410 (Current)

2015 ADT: 4,680 (Letting)

2035 ADT: 6,960 (Design)

This 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 each of the four locations. At all four locations, the main observed crash trend was single vehicle off road crashes. The information for all four locations is for the 12½ year period from January 1, 2000 through June 30, 2012. However, the stated correctable crashes, and subsequent benefit-to-cost ratios, are based on crashes through 2009:

Location #1 (RP 0.7 to RP 1.4): There were twelve crashes throughout the study area, ten of which resulted in overturning of the vehicle. The crashes were evenly distributed based on direction of travel (six northbound and six southbound).

Nine crashes were determined to be correctable by slope flattening on both sides of the roadway. Three of the nine correctable crashes were injury crashes with three persons injured, and six property damage only crashes. The proposed safety improvements yielded a benefit-to-cost ratio of 1.74, assuming a construction cost estimate of \$201,000. There have been no crashes recorded since December 31, 2009.

Location #2 (RP 2.7 to RP 3.2): Eighteen crashes were recorded, with fifteen involving a single vehicle. The vehicle overturned in nine of those fifteen crashes, the vehicle struck a wild animal in five other crashes, and the vehicle caught fire in one crash. The remaining three crashes resulted in three rear end collisions. The crashes were evenly distributed based on direction of travel (ten northbound and eight southbound).

Eight crashes were determined to be correctable by slope flattening on both sides of the roadway. Three of the eight were injury crashes with four persons injured. The other five crashes were property damage only. The proposed safety improvements yielded a benefit-to-cost ratio of 3.15, assuming a construction cost estimate of \$144,000. There have been no crashes recorded since December 31, 2009.

Location #3 (RP 5.6 to RP 6.1): Fifteen of the eighteen recorded crashes were single vehicle off road. The vehicle overturned in nine of those fifteen crashes, the vehicle struck a wild animal in four other crashes, the vehicle struck a utility pole in one crash, and the vehicle struck a driveway approach in one

## Preliminary Field Review Report

HSIP 206-1(7)1, SF 119-Slope Flatten S-206 UPN 7884000

Project Manager: William M. Squires

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crash. The remaining three crashes resulted in two rear end collisions and one bicycle-vehicle collision. Eleven of the eighteen crashes involved a southbound vehicle.

Eight crashes were determined to be correctable by slope flattening on both sides of the roadway. Four of the eight were injury crashes with eight persons injured. The other four crashes were property damage only. The proposed safety improvements yielded a benefit-to-cost ratio of 6.22, assuming a construction cost estimate of \$143,000.

Three of the eighteen crashes occurred since 2009 (all single vehicle off road; two overturning, one striking a utility pole).

Location #4 (RP 8.5 to RP 9.0): Sixteen of the twenty-three recorded crashes were single vehicle off road. The vehicle overturned in twelve of those sixteen crashes, and the vehicle struck the ditch in the other four. The remaining seven crashes included three right-angle crashes; two rear-end crashes, one sideswipe-opposite-direction, and one head-on collision.

Fifteen crashes were determined to be correctable by slope flattening on both sides of the roadway. Six of the fifteen were injury crashes with ten persons injured, and nine crashes were property damage only. The proposed safety improvements yielded a benefit-to-cost ratio of 1.95, assuming a construction cost estimate of \$600,000.

Three of the twenty-three crashes occurred since 2009. Two were single vehicle off road crashes, with one overturning, and one striking a ditch. The third crash involved a rear end collision at a private driveway.

### **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 12-4, Geometric Design Criteria for Rural Minor Arterials; and Chapter 14, Roadside Safety.

- a. **Design Speed.** We propose a design speed of 55 mph, appropriate for a rural minor arterial in rolling terrain. Design speed will be primarily pertinent in the determination of clear zone widths, and in advancement length for guardrail.

The posted speed limit is 60 mph along the entire length of Secondary 206.

- b. **Horizontal Alignment.** No changes are proposed to the horizontal alignments at any of the four locations, as described under **Physical Characteristics**.
- c. **Vertical Alignment.** No changes are proposed to the vertical alignments at any of the four locations, as described under **Physical Characteristics**.
- d. **Typical Sections and Surfacing.** Surfacing work will generally be limited to the construction of mailbox turnouts where determined to be appropriate. We tentatively propose a surfacing section of 0.20' of plant mix and 0.50' of crushed aggregate course. This section was used on the mailbox turnouts with good results on the [5014] project constructed in 2008.
- e. **Grading.** Generally slopes on both sides of the road will be addressed. Ideally, we'd like to flatten inslopes to meet standards (6:1 on fills < 10 feet and 4:1 on fills 10' to 20') and flatten ditch inslopes to 6:1, with 10-ft. flat-bottom ditches and backslopes 3:1 or flatter. If right-of-way or constraints arise, the primary focus will be to provide a recoverable fill slope (4:1 or flatter) and a recoverable ditch section (e.g. a 6:1/4:1 v-ditch) within the clear zone (22 feet on 6:1, and 26 feet on 4:1).

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There may be segments where the existing side borrow ditch has a minimal function to store snow or convey runoff. In those areas, it may be possible to extend a 6:1 or 4:1 inslope to its catch point, probably the bottom of the ditch or its backslope. If doing so does not adversely affect overall drainage patterns, including the intensity and volume of runoff leaving the right-of-way, roadside safety could be greatly enhanced, while minimizing right-of-way impacts.

There are some segments where the roadside geometry indicates a barnroof-style slope, or a widened shoulder with inslopes 3:1 or flatter would be efficacious. These segments will be evaluated, and the design decisions will be documented in the appropriate report.

Approach slopes will also be flattened to 4:1 or flatter where practical (i.e. drainage can be maintained). The roadside will be cleared of hazards (mostly trees) to the appropriate clear zone or greater if needed for slope work or utility relocation.

- f. **Geotechnical Considerations.** There do not appear to be any major geotechnical issues. The review team did not notice any signs of instability in the roadway or adjacent slopes.
- g. **Hydraulics.** According to the as-builts, there are two cross drains within Location 1, one within Location 2, three within Location 3, and two within Location 4. These drains all appear to be 18-in pipes. Some may have to be lengthened in slope flattening areas. Due to their age, they will be evaluated for total replacement. If replacement is appropriate, the new drains would be 24 inches in diameter.

Some approaches have pipes, others do not. Where we propose to flatten approach slopes, we will generally try to perpetuate the current conditions. Some of the newer approaches have flatter slopes with the RACET on the approach pipes. We presume these RACETS have 6:1 slopes, rather than the 10:1 slope currently depicted in the detailed drawings. If the mainline slope flattening does not impact the 6:1 RACETS, we would probably elect to leave them as is. If an approach pipe has to be reset or replaced, the new pipe would have the 10:1 RACET.

- h. **Bridges.** There are no bridges within the project limits.
- i. **Traffic.** Traffic will be responsible for any signing and delineation items. Please note the TIS Image Viewer for the years 2002, 2005, and 2008 shows the sign for MP 9 about 0.07 miles north of Tallent Lane. On the day of the review, the sign was about 0.03 miles south of that intersection. We have not determined why or when the sign was moved. It is unknown what the sign location was on the date(s) of the three crashes that occurred since 2009.
- j. **Pedestrian/Bicycle/ADA.** There are no dedicated pedestrian/bicycle or ADA facilities within any of the four locations, and none are proposed. One could speculate that the two-track trails created by ATV operators are occasionally used by pedestrians and/or bicyclists, but we saw no evidence of that on the day of the review.
- k. **Miscellaneous Features.** – Miscellaneous features will include fencing and may include mailboxes and mailbox turnouts. Guardrail will be considered along the west side of Location 2 from RP 2.64± to 2.84±, where the high fill slope and private approach at the bottom may render slope flattening impractical. If guardrail is required, we'll provide at least two feet of shy distance, but we'll strive to widen the shoulder adjacent to the guardrail as much as possible, given the site constraints.

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- k. **Context Sensitive Design Issues.** Although the crash history may not indicate that the lack of properly designed mailbox turnouts was a contributing factor in any of the crashes, the narrow existing road, high traffic volumes and relatively high number of mailboxes suggest the inclusion of mailbox turnouts would be a cost-effective safety enhancement.

### Other Projects

There are 48 active MDT projects in Flathead County. HSIP 1-2(175)99, SF 119-SLP FLATTEN W-KALISPELL [7878000] might be a good candidate to tie for contract, as it has a similar scope, and we expect the development time to be similar. There do not appear to be any projects that will be under construction that could affect this project, according to current schedules.

### Location Hydraulics Study Report

There are no delineated floodplains within the project area. A Location Hydraulics Study Report was not prepared due to the limited 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. slopes, clear zones, guardrail details, shy distance, etc.) will be discussed in the scope of work report.

### Right-of-Way

The following information is based on the right-of-way widths shown on the 1932 as-built construction plans.

- Location #1 (RP 0.7± to 1.4±): 50 to 60 feet left [crops]  
40 to 60 feet right – [landscaping & crops]
- Location #2 (RP 2.7± to 3.2±): 60 to 80 feet left [pasture]  
50 to 80 feet right [crops]
- Location #3 (RP 5.6± to 6.3±): 38± to 60± feet left [residential, trees]  
40 to 70 feet right [crops, pasture, storage units, tree cover]
- Location #4: (RP 8.5± to 9.0±): 30± to 130± feet left [pasture]  
50 to 70 feet right [crops, pasture, tree cover]

New right-of-way and/or construction permits will likely be required from intermittent segments along all four locations. Most of the right-of-way acquisition would be land now used for pasture or crops, but along Location 3, there are trees that appear to screen residential abodes, and could be contentious if we propose to clear them to flatten slopes and or enhance roadside recovery area.

### Access Control

There is no existing access control, and none is proposed.

### Utilities/Railroads

The existing utilities listed below were noticed on the field review and detected from inspection of the Image Viewer.

- Location #1: (RP 0.7± to 1.4±): overhead power left, buried telephone right
- Location #2: (RP 2.7± to 3.2±): overhead power left and right, buried telephone left and right
- Location #3: (RP 5.6± to RP 6.3±): overhead power left and right, buried telephone left and right. A three-pole transmission line diagonally crosses the highway at RP 5.75, but no impacts are expected.

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Location #4: RP 8.5± to RP 9.0±): overhead power left and right, buried telephone left and right

Some power poles located near county road intersections carry north-south lines, and east-west lines. We expect these poles would be very costly to relocate.

There may also be a buried natural gas line along this route (based on experience from the [5014] project), but we did not see evidence of it during the field review, and markers cannot be readily spotted from the Image Viewer.

There will be no railroad involvement.

### **Cold-In-Place Recycle** – N/A

### **Maintenance Items**

The review team did not notice any obvious conditions that should be addressed by Maintenance. We did notice that newer private approaches have flat inslopes with the RACET on the end of the approach pipe. We did not determine if the RACETS had the 6:1 slope or the current design, a 10:1 slope.

### **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**

A topographic survey was requested on September 25, 2012. Generally, we requested enough data to develop cross sections for mainline and approaches, locate topography and utilities, and determine existing right-of-way.

### **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) Adjacent landowners along the project will be contacted at the time of right of entry and preliminary right-of-way report. Landowner concerns and local knowledge will be gathered.
- c) Local government officials and interest groups will be contacted as needed.
- d) When the design is well along and plans are available, right-of-way agents will contact and visit all of the landowners adjacent to the project to explain the work to be performed and the overall design of the project.
- e) 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 will encourage the use of wildlife-friendly fence when right-of-way agreements require new fencing.

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### **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 during working hours. We will require that two-way traffic must be maintained during non-working hours, and will consider a specification that two-way traffic must be maintained through the work areas during the morning and afternoon peak commute times.

If some construction activities (most likely mainline culvert replacement) could be efficiently completed with short-term (1 to 2 days) total road closures, we will consider the use of adjacent county roads as detour routes. Out-of-direction travel could range from 0.5 miles up to two miles.

### **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](mailto:bsquires@mt.gov)

This project is not under full FHWA oversight.

### **Preliminary Cost Estimate**

The project was nominated with a construction cost estimate of \$1,088,000 and a construction engineering cost estimate of \$109,000. Here is the updated cost estimate, based on a per mile cost by comparison to the [5014000] slope flattening project let in 2008:

	Estimated cost	Inflation (INF) (from PPMS)	TOTAL costs w/INF + IDC (from PPMS)
Road Work	\$ 611,000		
Traffic Control (8%)	\$ 48,900		
<b>Subtotal</b>	<b>\$ 659,900</b>		
Mobilization (12%)	\$ 79,200		
<b>Subtotal</b>	<b>\$ 739,100</b>		
Contingencies (15%)	\$ 110,900		
<b>Total CN</b>	<b><u>\$ 850,000</u></b>	<b><u>\$ 135,216</u></b>	<b><u>\$ 1,094,377</u></b>
<b>CE (10%)</b>	<b><u>\$ 85,000</u></b>	<b><u>\$ 13,521</u></b>	<b><u>\$ 109,437</u></b>
<b>TOTAL CN+CE</b>	<b><u>\$ 935,000</u></b>	<b><u>\$ 148,737</u></b>	<b><u>\$ 1,203,814</u></b>

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 May 2014. Depending on the extent of right-of-way acquisition and utility relocation required, the letting date could move out a year or two.

**Preliminary Field Review Report**

**Site Map**

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[7884000]  
FLATHEAD COUNTY***

