



May 3, 2013

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ENVIRONMENTAL

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

MASTER FILE
COPY

Attention: Alan Woodmansey

Subject: Programmatic Categorical Exclusion (PCE) Concurrence Request
HSIP 232-1(9)3
SF 119-Safety Imp-N Havre
CN: 7889000

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 Alignment and Grade Review Report, dated April 4, 2013, and a project location map are 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 type="checkbox"/>	<input checked="" 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 & Water Conservation Fund Act</i> (16 USC 460L, <i>et seq.</i>) on or adjacent to 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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. A 124SPA Stream Protection Authorization would be obtained from the MDFWP?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Tribal Water Permit would be required.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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. The designated National Wild & Scenic River systems in Montana are:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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"/>

- | | <u>YES</u> | <u>NO</u> | <u>N/A</u> | <u>UNK</u> |
|--|--------------------------|-------------------------------------|--------------------------|--------------------------|
| 5. Federally listed Candidate, Threatened or Endangered (T/E) Species: | | | | |
| A. There are recorded occurrences and/or critical habitat in this proposed project's vicinity. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 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.

Eric Thunstrom, Date: 5/3/13
Eric Thunstrom
Great Falls District Project Development Engineer
MDT Environmental Services Bureau

Heidy Bruner, Date: 5/6/13
Heidy Bruner, P.E.
Engineering Section Supervisor
MDT Environmental Services Bureau

Alan W. [Signature], Date: 7 May 2013
Federal Highway Administration

Attachment:

electronic copies without attachment (unless otherwise noted):

Dave Hand	Great Falls District Administrator
Steve Prinzing, P.E.	Great Falls District Preconstruction Engineer
Tom Martin, P.E.	Environmental Services Bureau Chief
Heidy Bruner, P.E.	Environmental Services Bureau Engineering Section Supervisor
Kent Barnes, P.E.	Bridge Engineer

Kevin L. McLaury
Page 7 of 7
May 3, 2013

HSIP 232-1(9)3
SF 119-Safety Imp-N Havre
CN: 7889000

Paul Ferry, P.E.	Highways Engineer
Mark Goodman, P.E.	Hydraulics Engineer
Robert Stapley	Right-of-Way Bureau Chief
Christie McOmer, P.E.	Great Falls District Projects Engineer
Suzy Price	Contract Plans Bureau Chief
Tim Tilton	Contract Section Supervisor
Lisa Hurley	Fiscal Programming Section Supervisor
Tom Erving	Fiscal Programming Section
Tim Holley	Great Falls District Environmental Engineering Specialist
Eric Thunstrom	Environmental Services Bureau Project Development Engineer
Montana Legislative Branch Environmental Quality Council (EQC) (with attachment)	

copies with attachment

File

Environmental Services Bureau

HSB:ejt: S:\PROJECTS\GREAT-FALLS\7000-7999\7889\7889000\ENCED001.doc



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

Memorandum

To: Paul Ferry, P.E.
Highways Engineer

From: Steve Prinzing, P.E. *SP*
Great Falls District Preconstruction Engineer

Date: April 4, 2013

Subject: HSIP 232-1(9)3
SF 119 – Safety Imp – N Havre
UPN 7889000
Work Type 310 – Roadway & Roadside Safety Improvements

Please Approve the Alignment and Grade Review for this project.

Approved Lesly Tribelhorn for Date April 4, 2013
Paul Ferry, P.E.
Highways Engineer

We are requesting comments from the below distribution. If no comments are received within two weeks of the release date we will assume concurrence.

Distribution:

Doug Wilmot, Acting 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
Alan Woodmansey, FHWA - Operations Engineer
Jon Swartz, Maintenance Division Administrator

cc:

Dawn Stratton, Fiscal Programming Section

Damian Krings, Road Design Engineer
Hill County Commissioners 315 4th Street, Havre, MT 59501

e-copies:

Jim Walther, Engineering, Preconstruction Engineer
Lesly Tribelhorn, Highways Design Engineer
Mark Goodman, Hydraulics Engineer
Kurt Marcoux, District Hydraulics Engineer
Jon Axline, Acting Env. Resources Section Supervisor
Paul Sturm, District Biologist
Eric Thunstrom, District Project Development Engineer
Danielle Bolan, Traffic Operations Engineer
Ivan Ulberg, Traffic Design Engineer
Gabe Priebe, District Traffic Project Engineer
Kraig McLeod, Safety Engineer
Stephanie Brandenberger, Bridge Area Eng., GF District
Michael Grover, Engineering Cost Analyst
Marty Beatty, Engineering Information Services
Paul Grant, Public Involvement Officer
Sue Sillick, Research Section Supervisor
Wayne Noem, Secondary Roads Engineer

Jake Goettle, Construction Bureau – VA Engineer
Steve Prinzing, District Preconstruction
Christie McOmber, District Projects Engineer
Stan Kuntz, District Materials Lab
Matt Ladenburg, District Maintenance Chief
Jerilee Weibel, District Right of Way Supervisor
Phillip Inman, Utilities Engineering Manager
David Hoerning, R/W Engineering Manager
Greg Pizzini, Acquisition Manager
Joe Zody, R/W Access Management Section Manager
Matt Strizich, Materials Engineer
Daniel Hill, Pavement Analysis Engineer
Lee Grosch, District Geotechnical Manager
Bryce Larsen, Supervisor, Photogrammetry & Survey
Paul Johnson, Project Analysis Bureau
Jean Riley, Planner
Duane Williams, Motor Carrier Services Division Administrator
James Combs, District Traffic Engineer
Brendan Scott, District Utility Agent
Linda Cline, District R/W Design

Alignment and Grade Report

SF 119 – Safety Imp – N Havre HSIP 232-1(9)3

Project Manager: Steve Prinzing

Page 1 of 6

Scope of Work

The proposed scope of work for this project is to reconstruct the curve and realignment of the S-233 intersection. The purpose of this project is to address single-vehicle-run-off-the-road overturning crashes on the curve.

The project will require acquisition of new right-of-way and relocation of some utilities to incorporate the new location of the roadway.

Project Location and Limits

The project is located north of Havre in Hill County on Secondary 232, commonly known as Wildhorse Road. The proposed project begins at RP 2.9 +/- and proceeds north and west approximately 1.0 mile ending at RP 4.1 which connects to the adjacent safety project constructed in 2008. The proposed larger curve radius on this project shortens the overall length of the project. The project is located in Sections 30 & 19, Township 33 North, Range 16 East, and Sections 24 & 25, Township 33 North, Range 15 East. The functional classification of S-232 is a Major Collector road and the project will be designed to the geometric design criteria for a Rural Collector Road (Secondary System). Secondary 233 intersects the mainline (S-232) at RP 3.3 and will be realigned to accommodate a 'T' alignment with the new curve.

The following table identifies related projects with location and year built (according to roadlog):

Project ID	From		To		Year Built
	Station	RP	Station	RP	
<u>As-Builts</u>					
NRS 301	0+00.00	0.000	540+00.00	10.208	1934
<u>Improvement Projects</u>					
S 301(5)	13+74.00	0.000	540+00.00	10.208	1950
*RTS 232-1(4) – Overlay		0.987		10.217	1993
<u>Adjacent Projects</u>					
HSIP 232-1(6)4	11+20.00	4.078	18+66.42	4.549	2008

* plans were not found

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 Public Information (PI) component to address 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 PTW traverses a rural area with level terrain used primarily as farm land. The roadway consists of two undivided 11' travel lanes with 0.5' shoulders. The PTW intersects with Secondary 233 which continues northeast.

Alignment and Grade Report

SF 119 – Safety Imp – N Havre HSIP 232-1(9)3

Project Manager: Steve Prinzing

Page 2 of 6

Design Speed

The Geometric Design Criteria for Rural Collector Roads calls for a design speed of 60 mph with level terrain. The posted speed limit is 70 mph for daytime travel and 65 mph for nighttime travel. The truck speed limit is posted at 60 mph.

Existing Surface

NRS 301 constructed S-232 between RP 0.000 and 10.208 in 1934. In 1950 project S 301(5) placed 3" of plant mix surfacing. RTS 232-1(4) was an overlay project constructed in 1993. The roadlog shows an existing plant mix surfacing depth of 2.5", base depth of 8" and a surfacing width of 23'. HSIP 232-1(6)4 constructed S-232 between RP 4.078 and 4.549 in 2008. The surfacing width on that project was 30'.

PvMS Data

No recommendations for treatment have been made.

Existing Horizontal Alignment

The existing horizontal alignment contains a 573.0' radius curve which does not meet the minimum radius of 1200' for Rural Collector Roads with a 60 mph design speed. The existing super elevation is approximately 6%.

Existing Vertical Alignment

The existing vertical alignment contains grades ranging from 0.00% to 4.80%. All of the existing grades meet the current design criteria's maximum grade of 5% for level terrain on Rural Collector Roads.

Existing Cut/Fill Slopes

The NRS 301 as-built plans state the fill slopes were built on a 1½:1 and cut sections were to be constructed with a 10:1 bottom ditch including a 3:1 inslope with the back slope showing "slope as staked".

Horizontal Alignment

The horizontal alignment will be reconstructed to provide a curve that meets Geometric Design Criteria for a Rural Collector Road at 60 mph. The existing curve will be redesigned with a spiral curve, a radius of 2000', and superelevation of 7%. The location will be offset towards the west to accommodate the new alignment.

The intersection with Secondary 233 will be realigned to intersect with the proposed mainline curve. Secondary 233 will intersect with Secondary 232 at 90 degrees ('T' intersection) then connect to the existing roadway at approximately 515 feet. Secondary 233 connects to the mainline on the high side of the superelevated curve.

Vertical Alignment

The vertical alignment will be designed to meet Geometric Design Criteria for a Rural Collector Road at 60 mph. With minor grading activities, all gradients meet or are less than the maximum gradient of 5% along this roadway. The snow tends to drift to the west of the existing curve, so a slight grade raise will be designed. The vertical grade will also be raised to minimize the impact to the water main crossings at station 40+04 and 46+66. The alignment will meet the minimum stopping sight distance of 570' for a 60 mph design speed.

Alignment and Grade Report

The proposed vertical alignment will have a minimum profile grade of 0.14% in one location where it connects to the PTW at the end of the project. Positive ditch drainage will be designed. The maximum proposed vertical grade of 3.56% meets the maximum grade of 5% for Rural Collector Roads. The crest vertical curve at the beginning of the project is designed as an asymmetrical curve with a length of 450' and 550' in order to meet the design speed at 60 mph.

On Secondary 233 the proposed vertical alignment will connect to the high side of the superelevated curve on mainline with a proposed grade of 2.00% for approximately 75 feet. The proposed vertical alignment will have a minimum grade of 0.28% and connect to the existing roadway at a grade of 0.33%.

Surfacing and Typical Section

Based on the Geometric Design Criteria for a Rural Collector Road at 60 mph, and the ADT information, a 28' minimum finished top is required. Due to the existing 30' finished top width constructed with the previous safety project to the north, and the existing 30' width on S-233, a 30' finished top will be provided with this project. The roadway will include two 12' travel lanes with 3' shoulders. The 3' shoulders will add an additional measure of safety on the curve to reduce the run off the road accidents and will improve the intersection with S-233 for turning vehicles.

The Preliminary Surfacing Recommendations for a Reconstruct is:

Surfacing Section No. 1 – Curve Reconstruction, RP 2.900 - 3.308

0.30' Plant Mix Bituminous Surfacing, Grade S

1.10' Crushed Aggregate Course

1.40'

Design R-value = 5

Surfacing Section No. 2 – Curve Reconstruction, RP 3.308 - 4.100

0.30' Plant Mix Bituminous Surfacing, Grade S

0.70' Crushed Aggregate Course

1.00'

Design R-value = 5

Surfacing design sections are based on traffic data indicating 54 ESALs and 14 ESALs, respectively. Grade S ¾" plant mix surfacing with PG 64-28 binder and 5.4% asphalt content is recommended. Binder and plant mix grade have been selected according to 4/7/05 Surfacing Design Guidelines.

Soil class has been used to determine surfacing thickness. Surface Design recommends the District review soil survey information prior to construction.

The District recommends using Surfacing Section No. 1 for the entire project, RP 2.9 – RP 4.1 and also for the connection to S-233.

Adhering to the Geometric Design Criteria for Rural Collector Roads, standard 6' wide on 4:1 ditch inslopes with 10' of 20:1 ditch bottoms will be used through the majority of the project limits. Variable ditch inslope widths will be used to provide adequate drainage. Back slopes and fill slopes will vary in relation to the height at slope stake according to the Geometric Design Criteria for level terrain.

Alignment and Grade Report

Grading

The proposed horizontal curve is located approximately 585 feet at the farthest point from the existing PTW. The vertical grade is slightly raised following the existing level terrain. The earthwork will be paid for as Embankment in Place.

Soil borings were sampled at five different locations on the project. Two samples were taken on the existing PTW, two at the proposed horizontal curve location for Highway S-232, and one on the proposed alignment section at the intersection of Highways S-232 and S-233. For the majority of the samples, the material encountered was Soil Class A-6, which is expected to have medium swell tendencies. No water table was encountered.

Hydraulics

Since this project impacts only one 18-inch cross drain per the as-builts, a Location Hydraulic Study Report was not prepared.

Existing cross drain within the project limits:

RP	As-Built Sta.	Project Sta.	Type/Size
3.67	193+00	50+16	18"x40'

Due to the proposed changes in vertical and horizontal alignments the ditches will be graded to drain by adjusting the fill slope widths. The terrain is relatively flat. Hydraulics will determine if the existing ditches, possibly just created from side borrow construction, need to be perpetuated in fill sections.

Bridges

No bridges are within the project limits.

Traffic

The Traffic Section will provide delineation in the signing plans. Delineation needs to be off-set for agricultural vehicle clearances.

Truck turning radii will be necessary at the S-233 intersection approach. The S-233 intersection is proposed to be realigned at a 90 degree angle.

Intelligent Transportation Systems (ITS) Features

No ITS features will be designed within this project.

Miscellaneous

All existing fencing will be replaced where disturbed. As right-of-way agreements are compiled, types of fence and gates will be coordinated with landowners.

Standard rumble strips will be included on both left and right shoulders. Even though a minimum clear path of four feet will not be provided for bicyclists because of the use of rumble strips, the increased shoulder width will improve current conditions for this type of travel.

Design Exceptions

No design exceptions are anticipated at this time.

Alignment and Grade Report

Right-of-Way

Deviations from the PTW to incorporate the necessary geometric upgrades will require right-of-way to be purchased with this project. The minimum right of way at 10' beyond construction limits will be acquired. The majority of the right-of-way will be acquired from land owned by the State of Montana. Existing right-of-way throughout the project is generally 30' left and 40' right of centerline.

Utilities/Railroads

Anticipated utility impacts include but are not limited to overhead and underground power, underground fiber optic, underground telephone, and underground water main.

No railroads are located within the project limits.

Environmental Considerations

Environmental Services conducted a cultural resource survey of the project area in 2012. No cultural resources impacts are anticipated as a result of the proposed project. No further cultural resource work is necessary. Due to the impacts to the state land, Environmental Services will determine if Section 4(f) or Section 6(f) involvement is necessary. A Biological Resources Report and Biological Assessment (BRR/BA) was completed on February 22, 2013. The BRR/BA indicated that the project will have no effect on a federally listed threatened or endangered species, no impact on species of concern occurring in the vicinity of this project, and no impact on the general wildlife species and natural resources occurring in the vicinity of this project. The project will not impact any streams or wetlands. A Stream Protection Act 124 Notification is not required. Since no impacts to waters of the United States are anticipated, a Clean Water Act Section 404 Permit will not be required. The anticipated level of environmental documentation will be a Programmatic Categorical Exclusion in accordance with 23 CFR 771.117(d).

Experimental Features

At this time no experimental features are anticipated.

Traffic Control

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

Traffic will be maintained throughout the project during construction with the appropriate signing, flagging, lane closing/traffic shifting, etc. All signing will be in accordance with the Manual on Uniform Traffic Control Devices. Access will be maintained to the intersecting S-233 connection. Local access will be maintained to the maximum extent possible.

Traffic issues that will require special consideration are as follows:

- Maintaining access to intersecting roadways

Limited TO and PI components will be included to mitigate these impacts to the traveling public. Strategies that will be considered are:

- Construct and pave new alignment before obliterating PTW
- Use PTW and existing S-233 intersection as detours.

Alignment and Grade Report

- Utilize newspaper releases and Montana Travel Info to alert the public about project activities.

Public Involvement

Due to the limited scope of the project, a Level A public involvement plan is appropriate. A news release explaining the project and a department point of contact was released January 30, 2013. An informational meeting and/or public hearing will not be necessary.

Cost Estimate

The project was nominated at \$800,000.

At the Preliminary Field Review stage the cost estimate with CN, CE and IDC of 11.08% was \$1,735,150. The following items were considered in the roadwork preliminary cost estimate: addition of 0.3 miles of roadway to connect to adjacent project, reconstruction of curve, realignment of the intersection with S-233, grading, plant mix surfacing (28' finished top), crushed aggregate course, seal & cover, pavement markings and signing. The construction cost per mile was approximately \$1,557,500.

The Alignment and Grade Cost Estimate has been adjusted using quantities for a Reconstruction project with more detailed grading and surfacing quantities. The project length increased from 0.3 miles at Nomination to 1 mile at Alignment and Grade due to the curve length and the connection to the adjacent project at the end of the proposed project which increased the cost. Also affecting the cost is the typical width proposed at 30' for the finished top. The grading will be an Embankment in Place project. The construction cost per mile is \$1,624,400.

Project Name		Estimate	Inflation (INF)	w/INF + IDC
		Costs	(from PPMS)	(from PPMS)
Road work		\$1,200,106		
Traffic Control		\$30,500		
Subtotal		\$1,230,606		
Mobilization	10%	\$123,061		
Subtotal		\$1,353,667		
Contingencies	20%	\$270,733		
Total CN		\$1,624,400	\$63,548	\$1,874,972
CE	10%	\$162,440	\$6,355	\$187,497
IDC:	11.08%		TOTAL	\$2,062,470
Inflation Factor (ppms)			0.039120879	

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

The current ready date shown in the Project Management System is April 1, 2014. The tentative letting date is June 2014. The project is slightly behind the ready date schedule with its projected finish date of May 2014, but is expected to be delivered on time.

Preliminary Field Review Report

SF 119 - Safety Imp - N Havre HSIP 232-1(9)3
Project Manager: Christie W. McOmber & Steve Prinzing

FEDERAL AID PROJECT HSIP 232-1(9)3
GRADE, GRAVEL, PL. MIX SURF.
SF 119 - SAFETY IMP - N HAVRE
HILL COUNTY

LENGTH 0.8 MILES

R. 15 E. R. 16 E.

