MDT

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

Timothy W. Reardon, Director
Brian Schweitzer, Governor

January 5, 2012

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ENVIRONMENTAL

Kevin McLaury
Division Administrator
Federal Highway Administration
585 Shepard Way
Helena MT 59601

Subject: **Programmatic Categorical Exclusion (PCE) Concurrence Request**
STPS 228-1(8)15
S-228-S of Highwood/MT11-1
CN: 7817000

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 MDT and FHWA on April 12, 2001. This proposed action also qualifies as a Categorical Exclusion under ARM 18.2.261 (MCA 75-1-103 and MCA 75-1-201).

The following form provides documentation required to demonstrate that all of the conditions are satisfied to qualify for a Programmatic Categorical Exclusion. A copy of the Preliminary Field Review Report, dated November 8, 2011, including a project location map, 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				
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. A high rate of residential growth exists in the area of the proposed project.	☐	☒	☐	☐
3. A high rate of commercial growth exists in the area of the proposed project.	☐	☒	☐	☐
4. Work would be on and/or within approximately 1.6 kilometers (1± mile) of an Indian Reservation.	☐	☒	☐	☐

		Yes	No	N/A	UNK
5.	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.*) are on or adjacent to the proposed project area.	☐	☒	☐	☐
	The use of such Section 6(f) sites would be documented and compensated with the appropriate agencies (MDFWP, local entities, etc.).	☐	☐	☒	☐
6.	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) would be affected by this proposed project.	☐	☒	☐	☐
7.	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) are 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. A de minimis finding has been secured for this project.	☐	☐	☒	☐
	c. Nationwide Programmatic Section 4(f) Evaluation forms for those sites are attached.	☐	☐	☒	☐
	d. This proposed project requires a full Section 4(f) Evaluation.	☐	☐	☒	☐
B.	The activity would involve work in a streambed, wetland, and/or other water body (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 of the Clean Water Act (33 USC 1251-1376) codified at 33 CFR 320-330 would be met.	☒	☐	☐	☐
2.	Impacts in wetlands, including but not limited to those referenced under Executive Order (EO) #11990, and 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 would be obtained from the MDFWP.	☐	☒	☐	☐
4.	A delineated floodplain exists 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.	A Tribal Water Permit would be required.	☐	☒	☐	☐
6.	Work would be required in, across, and/or adjacent to a river that 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.	☐	☒	☐	☐

	Yes	No	N/A	UNK
The designated National Wild and/or 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).	☐	☐	☒	☐
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. Substantial changes in access control would be associated with the 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 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.	☐	☒	☐	☐

	Yes	No	N/A	UNK
All reasonable measures would be taken to avoid and/or minimize substantial impacts from same.	☐	☐	☒	☐
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 would be conducted.	☒	☐	☐	☐
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 an AD 1006 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 is either in a Montana air quality:				
A. "Unclassifiable"/attainment area. This proposed project is not 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 Air Quality Division, etc.).	☐	☐	☒	☐
C. Is this proposed project in a "Class I Air Shed" under 40 CFR 52.1382(c)(3)?	☐	☒	☐	☐
5. Federally listed Threatened or Endangered (T/E) Species:				
A. Recorded occurrences, and/or critical habitat are in the vicinity of the proposed project.	☒	☐	☐	☐
B. Would this proposed project result in a "jeopardy" opinion (under 50 CFR 402) from the Fish and Wildlife Service on any Federally listed T/E Species?	☐	☒	☐	☐

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

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). The project also complies with the provisions of Title VI of the Civil Rights Act of 1964 (42 USC 2000d) under FHWA regulations (23 CFR 200).

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

Eric Thunstrom Date: 1/5/2012
Eric Thunstrom
Environmental Services Bureau
Great Falls District Project Development Engineer

Concur Heidy Bruner Date: 1/5/12.
Heidy Bruner, P.E.
Environmental Services Bureau
Engineering Section Supervisor

Concur Date: 6 JAN 2012
Federal Highway Administration

Attachment

electronic copies without attachment:

Tom Martin, P.E.	Environmental Services Bureau Chief
Heidy Bruner, P.E.	Environmental Services Bureau Engineering Section Supervisor
Michael P. Johnson	Great Falls District Administrator
Kent Barnes, P.E.	Bridge Engineer
Paul Ferry, P.E.	Highways Engineer
Mark Goodman, P.E.	Hydraulics Engineer
Rob Stapley	Right-of-Way Bureau Chief
Tim Conway, P.E.	Consultant Design Engineer
Gabe Priebe, P.E.	Consultant Project Engineer
Dawn Stratton	Fiscal Programming Section
Alyce Fisher	Fiscal Programming Section
Brad Burns	Budget and Planning Bureau
Nicole Pallister	Helena Purchasing
Steve Prinzing, P.E.	Great Falls District Engineering Services Supervisor
Suzy Price	Contract Plans Bureau Chief
Tim Tilton	Contract Section Supervisor
Vacant	Great Falls District Environmental Engineering Specialist
Montana Legislative Branch Environmental Quality Council (EQC)	

copies with attachment:

File	Environmental Services Bureau

MDT attempts to provide accommodation for any known disability that may interfere with a person participating in any service, program or activity of the Department. 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.

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

Memorandum

To: Tim Conway, PE
Consultant Design Engineer

From: Bryan Miller, PE [initialed on 11/14/11]
Consultant Plans Engineer

Date: November 8, 2011

Subject: S-228 - S OF HIGHWOOD/MT11-1
STPS 228-1(8)15
UPN: 7817
Project Type: Emergency Slide Repair

Please approve the attached Preliminary Field Review Report.

Approved [Bryan Miller for TJC on 11/14/11] Date _____
Tim Conway
Consultant Design 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:

Michael Johnson, District Administrator
Kent Barnes, Bridge Engineer
Paul Ferry, Highways Engineer
Roy Peterson, Traffic and Safety Engineer
Robert Stapley, Right-of-Way Bureau Chief
Alan Woodmansey, FHWA Operations Engineer
Tom Martin, Environmental Services Bureau Chief
Lynn Zanto, Rail, Transit, & Planning Division Administrator
Jake Goettle, Construction Engineering Services Bureau
Matt Strizich, Materials Engineer
Jon Swartz, Maintenance Administrator

cc:

Nicole Pallister, Fiscal Programming Section
Consultant Design Project File

e-copies:

Jim Walther, Engineering, Preconstruction Engineer
Lesly Tribelhorn, Highways Design Engineer
Mark Goodman, Hydraulics Engineer
Kurt Marcoux, District Hydraulics Engineer
Bonnie Gundrum, Env. Resources Section Supervisor
Paul Sturm, Great Falls District Biologist
Eric Thunstrom, District Project Development Engineer
Danielle Bolan, Traffic Engineer
Ivan Ulberg, District Traffic Project Engineer
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Stephanie Brandenberger, Great Falls Bridge Engineer
Matt Strizich, Materials Engineer
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Bryce Larsen, Supervisor, Photogrammetry & Survey
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David Hoerning, R/W Engineering Manager
Greg Pizzini, Acquisition Manager
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Paul Johnson, Project Analysis Bureau
Sue Sillick, Research Section Supervisor
Marty Beatty, Engineering Information Services
Paul Grant, Public Involvement Officer
Jean Riley, Planner
Dawn Stratton, Fiscal Programming
Scott Bunton, Engineering Cost Analyst

Introduction

A Scoping Meeting/Preliminary Field Review was held on October 13, 2011 at the Montana Department of Transportation's Great Falls office. The purpose of the meeting was to discuss and define the scope of work for the project so that Robert Peccia and Associates (RPA), the consultant for the project, can prepare their scope of services and cost proposal. The meeting concluded with a site visit to the project. Those present at the meeting were as follows:

Jeff Jackson	MDT Geotechnical	444-3371
Will Tangen	MDT Consultant Design	444-9251
Steve Prinzing	MDT Great Falls Engineering	454-5899
Doug Wilmot	MDT Great Falls Construction	454-5910
Gary Engman	MDT Great Falls Maintenance	454-5903
Dennis Oliver	MDT Great Falls Maintenance	454-5891
Paul Sturm	MDT Environmental Services	444-9438
Gabe Priebe	MDT Consultant Design	444-5446
Cory Rice	SK Geotechnical	652-3930
April Gerth	Robert Peccia & Assoc.	447-5000

Proposed Scope of Work

The Great Falls District has requested consulting services to prepare a PS&E package for this slide repair project along Secondary 228. The project is located south of Highwood in Cascade and Choteau counties. The intent of the project is to mitigate slide areas and reduce MDT's maintenance efforts, and not to indefinitely "cure" the slides.

The proposed scope of work is to develop PS&E to repair or avoid slide areas located between mile posts 15.3 and 21.5. These are road slope failures exacerbated by heavy spring rains following record snowpack. MDT Maintenance completed emergency repairs this spring and summer in order to avoid closing the roadway and still has additional work. Currently the asphalt has been removed in three sections and placed back to gravel to facilitate traffic and to expedite maintenance activities.

There are four sections of roadway totaling 1.6 miles in length that require repair. Some proposed remedies include realignment, reconstruction, improved drainage, slope flattening, guardrail replacement, utility relocations, dig outs, reinforced fill slopes, and other slope failure mitigation as required.

The project will have an accelerated schedule. The scope of the slide repairs needs to be somewhat limited and the consultant should not overdue the project. Project completion is anticipated to be three months after the contract is signed, around the end of January 2012.

Robert Peccia & Associates (RPA) has been selected as the design consultant for the project. RPA will subcontract SK Geotechnical (SK) to provide geotechnical expertise and design.

Purpose and Need

The purpose of this project is to repair the roadway segments or realign around the slide areas, as previously discussed. This project will either maintain traffic on the existing roadway or provide minor realignments.

Project Location and Limits

This project begins at RP 15.35 on State Secondary 228 about 7 miles southwest of Highwood, and goes northeast to approximately RP 21.5. The project is located in Township 21 North, Range 7 East, Sections 14 through 30, in Cascade and Choteau counties. Secondary 228 is a major rural collector. The four specific slide locations are:

RP 15.35 – 16.0.
RP 16.9 – 17.6
RP 18.0
RP 21.0 – 21.5

Work Zone Safety and Mobility

At this time Level 3 construction zone impacts are anticipated for this project as defined in the Work Zone Safety and Mobility (WZSM) guidance. This route serves only the local rural area and has a very low AADT. The WZSM requires a Transportation Management Plan (TMP) consisting only of a Traffic Control Plan (TCP).

Physical Characteristics

1. As-Builts:
   Constructed in 1971 under project number S 348(11) U-90
   Improvements made in 2009 at RP 16.2 under BR 228-1(6)16

2. Existing Surfacing:
   The Road Log indicates the original surfacing is 3" PMS with 12" gravel base between RP 13 to RP 22.

   The asphalt has been removed in three slide sections and placed back to gravel to facilitate traffic and to expedite maintenance activities.

3. Existing Geometrics:
   The existing road width is 30 feet wide, with 12-foot travel lanes and 3-foot shoulders, which exceeds current design standards for this type of roadway. As-builts for the segment of road spanning all four slide sites were reviewed to determine if the existing roadway meets horizontal and vertical design standards. All of the curves on the existing horizontal alignment have radii larger than 760', the minimum radius for a 50 mph design speed. All curves have spiral transitions except one simple curve. The smallest radius is 1,145'. Two grades exceed the maximum of 7%, at 7.74% and 7.405%. Both grades are just north of the Belt Creek crossing. The Location 2 slide is located on the 7.74% grade and Location 3 is on the 7.405% grade.

A map showing the location of the slides is attached at the end of this report.

Traffic Data

Traffic Data was requested by Consultant Design and is expected to be available in the future.

Crash Analysis

A crash analysis was not performed due to the intent of the project. If it is determined at a later date that a full crash analysis is required, it will be obtained at that time.

Major Design Features

Design Speed- The design speed for Rural Collector Roads (Secondary System) in rolling terrain is 50 mph based on the MDT Road Design Manual. The highway is posted at 55 mph.

Geotechnical Considerations- The geotechnical investigation will analyze realigning the roadway to reduce the risk of future movement and to develop improvements to slide areas that cannot be realigned. The geotechnical investigation for this project includes completing a detailed geotechnical reconnaissance to delineate the slides, performing 17 penetration test borings along the alignment extending to depths of 20 to 75 feet, installing piezometers at three boring locations to obtain water level measurements, and installing four inclinometers to be measured twice to determine slide movements. Laboratory testing for this project will include moisture content, soil classification, corrosion, unconfined compression, specific gravity, standard proctor, consolidation, and triaxial shear. R-value or CBR tests will not be performed.

Geotechnical analysis for this project will include slope stability analysis, repair alternatives, proposed realignment investigation, and a recommended pavement typical section based on traffic data.

Substantially more geotechnical work would be required to adequately characterize, analyze, and develop stabilization methods for the larger slides. This in-depth work is beyond the scope of this project, and would include numerous more borings and inclinometers with months or years of monitoring, a significant number of laboratory tests to evaluate failure surfaces and subsurface shear strengths, more detailed slope stability analysis, and multiple cross sections for each slide to evaluate stabilization alternatives.

Location Design Parameters

RP 15.35 – 16.0. SK estimates one large slide in this section approximately 1,700 feet in length and 800 feet in width. Belt Creek continues to erode the toe and will likely trigger further movement. MDT would like to realign this section of roadway to the east, to where the right-of-way fence is currently and hold the existing roadway profile. SK estimates that continued erosion of the slide toe will likely cause progression of the larger slide further south and east to the new alignment, however it may take several years to develop.

The surfacing on a portion of this section is gravel. There are patches on the adjacent paved section. The east cut slope shows evidence of sliding and the west fill slope has moved to the extent that the guardrail has dropped. An existing mainline cross drain outfall is elevated and is causing considerable erosion. Whatever slope is determined to be appropriate after soils testing by SK will be projected from the bottom of the coulee to the west to the roadway elevation to determine the extent to shift the roadway. There is likely a wetland in the coulee to the west. Grading will begin above the brush line to avoid impacts to the wetland. The bottom of the fill slopes will be unloaded and a few fill slope/scarps will be shaved off. Two drainages on the south end will be filled in. Drainage will be perpetuated through the drainages but will be completed in such a way as to minimize erosion.

RP 16.9 – 17.6. SK estimates there are two small slides and one large slide in this area. One small slide is at RP 16.9 and is approximately 120 feet in length and 120 feet in width. The toe of the slide is likely being eroded by drainage from a culvert outlet and Belt Creek. Possible repair

alternatives may be soil nails, reinforced slope, deep patch, or rock buttress.

Another small side is at RP 17.0 and is approximately 200 feet in length and 200 feet in width. This slide may be related to saturation of embankment or poor culvert drainage. Possible repair alternatives may be slope flattening, reinforced slope, deep patch, or lightweight fill.

The large slide is located at RP 17.1 to 17.6 and is approximately 450 feet in length and 1,100 feet in width. This slide is likely related to saturation of the toe, and movement has created ponding areas that cause further saturation. Roadway embankment is also loading the slide and increasing movement. Past movement resulted in vertical offsets of 5 to 8 feet.

This segment is located on a long curve that has been shifted away from a slope failure on the east by maintenance forces. MDT prefers to realign this section further to the north and west, away from the channel on the east. The grade will likely be lowered and the large knobs on the west will be graded out with some drainages filled in. There is some movement in slopes on the realignment area, but will be partially removed with a cut slope. Unloading the top of the slide may reduce future movement.

There is a pavement failure at the south end of the realignment section. Water flows to the south in the drainage bounding the road to the east. Just north of the failure a cross drain carries the flow across the road. Just after the cross drain, the drainage on the east will be filled in to buttress the road. Soil nailing will be considered for the west side fill slope.

RP 18.0. SK estimates this small slide as approximately 170 feet in width and 180 feet in length. The slide is likely from surface water along the roadway being concentrated in locations. This slide is causing cracking in the roadway surface. An existing asphalt curb is broken in places and water has eroded away the roadside in those locations. MDT Maintenance has replaced and moved guardrail and also patched the road surface.

The fill slopes on both sides of the roadway will be flattened and the drainage culvert will be extended. MDT Hydraulics has noted that curb and embankment protectors may be appropriate for this area. The concentrated water has caused damage at curb breaches. Since the fill slopes will be flattened and the concentrated flows behind the curb have caused problems in the past, RPA will revisit the addition of curb during the design process.

RP 21.0 – 21.5. SK estimates the large slide in this area as approximately 850 feet in length and 3,000 feet in width. It appears multiple slides may have developed and joined into one large slide. This slide is likely related to surface water and side slope seepage that has saturated and weakened the clay and shale overlying the harder bedrock.

This portion of roadway is currently gravel as the roadway surface has experienced substantial movement. A portion of the west cut slope slid into the roadway this spring. Water was running from the west slope earlier this spring. Currently run-off is blocked from draining to the north by the displaced slide material. The beginning south portion is bounded on the west by grain elevators and farm buildings. The east is bound by a drainage. Further north the west side is along farm land.

MDT has not determined a solution for this area. The first section cannot be altered due to the constrictions of the farm and the drainage. Just beyond the grain elevators, it may be possible to flatten the west cut slope or bench it. Material could be placed in two locations on the east

without impacting the coulee channel. The roadway closer to the curve at the north end rolls but is stable. SK Geotechnical will evaluate the area and determine feasible repair or mitigation options. Slide improvements may include filling at the slide toe, improving drainage, or unloading the slide head while creating benches to collect runoff. MDT understands that fixing this slide may be beyond the limited scope of the project. This section may require long term MDT maintenance efforts. The roadway section will remain gravel and will not be paved.

Horizontal and Vertical Alignments- If possible, all roadway realignments will meet the required standards for both horizontal and vertical alignments. Should the best remedy at a location not meet design standards, MDT will be notified and will pursue a design exception.

Typical Sections- All new or reconstructed roadway will meet MDT, Cascade County, and Choteau County standards. According to the MDT Road Design Manual, a rural collector road in the secondary system with 300-999 AADT will have a width of 28 feet, which is comprised of two 12-foot travel lanes and two 2-foot shoulders. If the current roadway alignment is utilized, the new segment will be constructed to match the wider of the current roadway width or 28 feet. Side slopes will meet standards for level/rolling terrain.

The surfacing section thickness will be determined by SK Geotechnical and is dependent upon the alternative selected and the materials encountered, but will meet or exceed MDT minimum standards.

Grading- Balancing earthwork is not a priority at any of the slide sites. The project will ensure waste material placement within or near the project site does not cause new problems.

Hydraulics- There are not expected to be any irrigation facilities or ditches impacted by the project. Drainage issues are expected to be minimal, possibly including one new cross drain, one cross drain extension, and a few new approach pipes. The final drainage patterns will be reviewed so redirected flows don't cause erosion or other issues at the slide locations. Permanent erosion control guidelines will be followed.

Bridges- The project does not involve bridges.

Traffic- The project will utilize a special provision for signing and pavement markings in lieu of Signing and Pavement Marking Plans. The provision will specify that the existing signing and striping be perpetuated. All pavement markings and signing will be in accordance with the Manual of Uniform Traffic Control Devices.

Pedestrian/Bicycle/ADA- The project does not involve pedestrian or bicycle facilities.

Miscellaneous Features- The project involves replacing curbing and guardrail at various locations.

Context Sensitive Design Issues- The project does not involve context sensitive design issues.

Other Projects

There are no other projects currently under construction or under design development in the proximity that may affect this project.

Location Hydraulics Study Report
A Location Hydraulics Study Report will not be prepared for the project.

Design Exceptions
Design exceptions will be requested as necessary for any features that do not meet design standards for the functional classification and design speed.

Right-of-Way
New right-of-way and/or easements will be necessary for the first three sections and likely will be needed for the fourth section as well. The consultant will perform cadastral and right-of-way retracement on all four sections. MDT will perform all right-of-way tasks including ownership information, R/W design and plans, title commitments, and acquisition. There are no publicly-owned properties along the project.

Access Control
No changes to the access control are proposed.

Intelligent Transportation Systems (ITS) Features
There are no ITS solutions proposed.

Experimental Features
No experimental features have been identified.

Utilities/Railroad
The location of overhead and underground utilities within the project limits will be established. RPA will coordinate with local utilities to establish and prepare Phase 1 subsurface utility engineering. There will be no railroad involvement.

Survey
RPA will establish a GPS control survey, cadastral retracement, and topographic survey of non-DTM features**.** A GPS plan will be prepared and submitted to MDT prior to occupation. Setting of new points will be in accordance with the MDT Survey Manual. The DTM survey will be accomplished by a subconsultant, AeroMetrics, and will be obtained by lidar. RPA will also provide support services for AeroMetric's lidar survey as needed. A Phase 1 subsurface utility engineering survey will be performed at each slide site.

Public Involvement
The Public Involvement Plan will be Level A, which includes a news release explaining the project and a department point of contact.

Environmental Considerations
MDT Environmental Services Bureau will delineate wetlands and provide the resulting information to RPA. There is a 45 day permit review period and MDT is short on wetland credits, so the design needs to minimize wetland impacts.

MDT Environmental Services will prepare the environmental document and supporting reports for the project, likely a Programmatic Categorical Exclusion in accordance with 23 CFR 771.117(d). Section 4(f) and Section 6(f) environmental requirements are not expected since there are no public properties near the project site.

MDT Environmental Services will also coordinate with the U.S. Army Corps of Engineers and provide Clean Water Act Section 404 permitting.

Energy Savings/Eco-Friendly Considerations

No energy savings or eco-friendly considerations have been identified.

Traffic Control

Traffic will be maintained throughout the project construction locations with appropriate signing and flagging in accordance with the Manual of Uniform Traffic Control Devices.

Project Management

Robert Peccia & Assoc. will be responsible for the PS&E and Gabe Priebe will be the Project Design Manager. MDT in-house reviews will be reduced to five days to expedite the schedule. Typical Consultant Design project development activities will be combined as appropriate.

Preliminary Cost Estimate

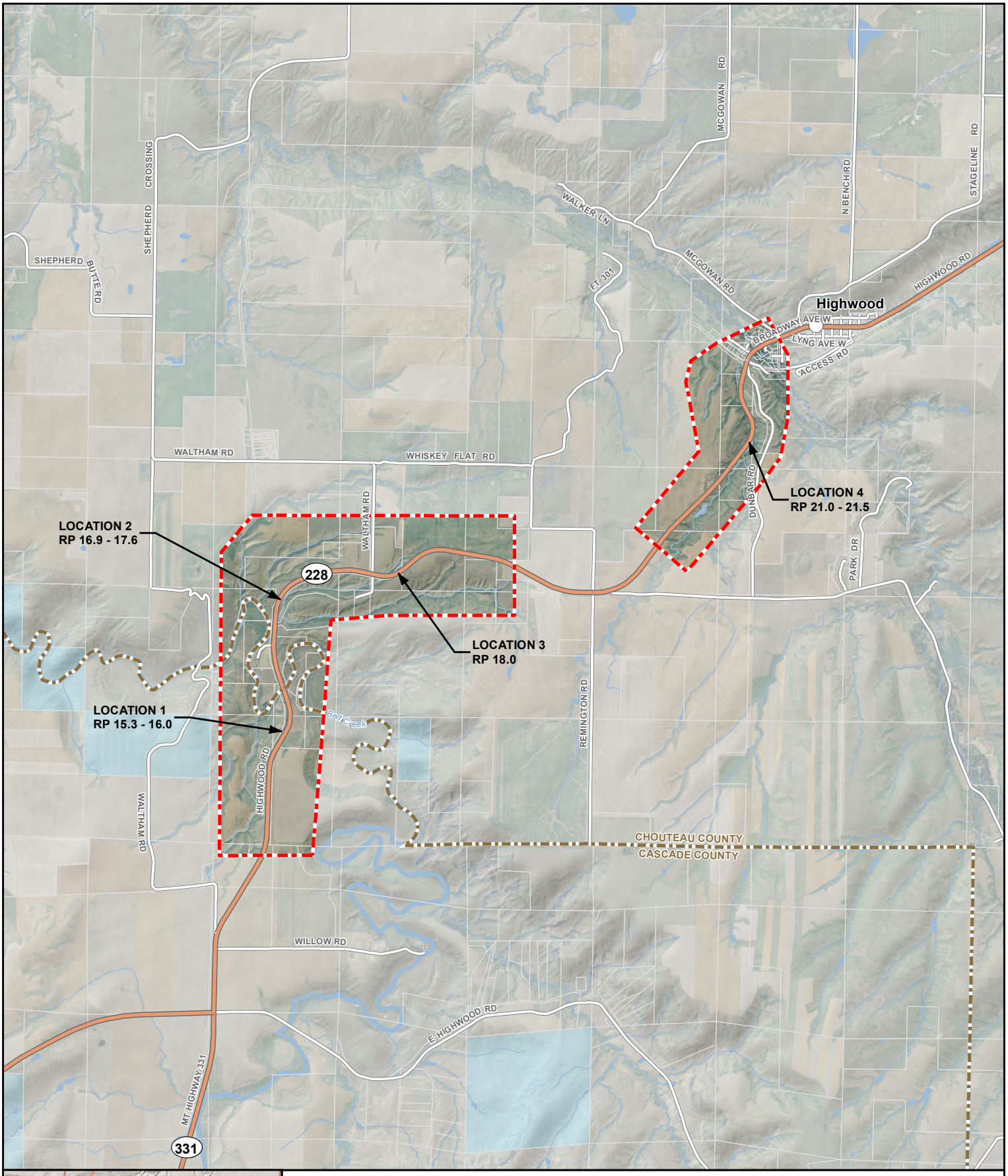
Cost estimates for the sites and alternatives, if necessary, will be developed during the design phase.

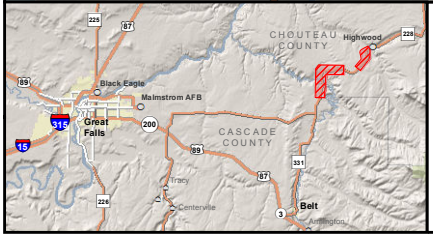
Ready Date

Project completion is dependent upon accelerated r/w acquisition, but is anticipated to be three months after the contract is signed, around the end of January 2012.

Site Map

The project site map is attached.





Map Legend

- Project Survey Limit
- Town
- Highway
- Local Route
- County Boundary
- Ownership Boundary
- State Land Trust
- Waterbody
- River / Stream

0 0.5 1 1.5 2 Miles

FIGURE 1

PROJECT VICINITY MAP

Control No: 7689000
Secondary 228 Slide Repair

Map Created by:
ROBERT PECCIA & ASSOCIATES
www.rpa-hln.com
1-800-667-8160

Project: 11507.000 S of Highwood Slide Repair | **Date:** Wednesday, October 26, 2011 3:13:56 PM | **File Path:** F:\highways\11507_000_S of Highwood Slide Repair\GIS\MAPS\VicinityMap.mxd