



August 17, 2012

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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
STPS-STPU 225-1(1)0
2 km N of Great Falls-North
CN: 4826

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 Scope of Work Report, dated August 14, 2012, 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 <i>1965 National Land & 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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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.	<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 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.	<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 Candidate, Threatened or Endangered (T/E) Species:				

- | | <u>YES</u> | <u>NO</u> | <u>N/A</u> | <u>UNK</u> |
|--|-------------------------------------|-------------------------------------|--------------------------|--------------------------|
| 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"/> |
| 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.



, Date:

8/17/12

Eric Thunstrom
Great Falls District Project Development Engineer
MDT Environmental Services Bureau

Concur



, Date:

8/17/12

Heidi Bruner, P.E. - Engineering Section Supervisor
MDT Environmental Services Bureau

Concur



, Date:

30 AUG 2012

Federal Highway Administration

Attachment:

electronic copies without attachment (unless otherwise noted):

Michael P. Johnson	Great Falls District Administrator
Tom Martin, P.E.	Environmental Services Bureau Chief
Heidi Bruner, P.E.	Environmental Services Bureau Engineering Section Supervisor
Kent Barnes, P.E.	Bridge Engineer
Paul Ferry, P.E.	Highways Engineer
Mark Goodman, P.E.	Hydraulics Engineer
Steve Prinzing, P.E.	Great Falls District Preconstruction Engineer
Robert Stapley	Right-of-Way Bureau Chief
Christie McOmber, P.E.	Great Falls District Projects Engineer

Kevin L. McLaury
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August 17, 2012

STPS-STPU 225-1(1)0
2 km N of Great Falls-North
CN: 4826

Suzy Price	Contract Plans Bureau Chief
Tim Tilton	Contract Section Supervisor
Nicole Pallister	Fiscal Programming Section Supervisor
Tom Erving	Fiscal Programming Section
Tim Holley	Great Falls District Environmental Engineering Specialist
Montana Legislative Branch Environmental Quality Council (EQC) (with attachment)	

copies with attachment

File

Environmental Services Bureau

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Memorandum

To: Distribution

From: Paul Ferry, P.E. *Paul R. Ferry*
 Highways Engineer *August 14, 2012*

Date: August 14, 2012

Subject: STPS-STPU 225-1(1)0
 2 km N of Great Falls-North
 UPN: 4826
 Work Type 151: Major Rehabilitation without Added Capacity

The Scope of Work Report for this project has been released on August 15th, 2012. We request that those on the distribution review this report and submit your concurrence within two weeks of the above date.

Your comments and recommendations are also requested if you do not concur or concur subject to certain conditions. When all the personnel on the distribution list have concurred, we will submit this report to the Preconstruction Engineer for approval.

I recommend approval:

Approved _____ Date _____

Distribution:

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

cc:

- | | |
|---|----------------------------------|
| Dawn Stratton, Fiscal Programming Section | Jim Reardon, City of Gt. Falls |
| Robert Snyder, Road Design Area Engineer | Dave Dobbs, City of Gt. Falls |
| Damian Krings, Road Design Engineer | 2 Park Drive South, P O Box 5021 |
| | Great Falls, MT 59403 |

e-copies:

- | | |
|---|---|
| Jim Walther, Preconstruction Engineer | Alyce Fisher, Fiscal Programming |
| Lesly Tribelhorn, Highways Design Engineer | Jake Goettle, Construction Bureau – VA Engineer |
| Mark Goodman, Hydraulics Engineer | Steve Prinzing, District Preconstruction Engineer |
| Kurt Marcoux, District Hydraulics Engineer | Christie McOmber, District Projects Engineer |
| Bonnie Gundrum, Env. Res. Section Supervisor | Stan Kuntz, G.F. District Materials Lab |
| Paul Sturm, District Biologist | Tony Strainer, Great Falls District Maintenance Chief |
| Eric Thunstrom, Project Development Engineer | Jerilee Weibel, District R/W Supervisor |
| Danielle Bolan, Traffic Engineer | Phillip Inman, Utilities Engineering Manager |
| Ivan Ulberg, G.F. District Traffic Project Engineer | David Hoerning, R/W Engineering Manager |
| Kraig McLeod, Safety Engineer | Greg Pizzini, Acquisition Manager |
| Stephanie Brandenberger, Bridge Area Eng. G.F. District | Joe Zody, R/W Access Management Section Manager |
| Matt Strizich, Materials Engineer | Paul Johnson, Project Analysis Bureau |
| Daniel Hill, Pavement Analysis Engineer | Susan Sillick, Research Section Supervisor |
| Lee Grosch, District Geotechnical Manager | Wayne Noem, Secondary Roads Engineer |
| Bryce Larsen, Supervisor, Photogrammetry & Survey | Duane Williams, Motor Carrier Services Division Administrator |
| Marty Beatty, Engineering Information Services | Dennis Ghekiere, District Utility Agent |
| Paul Grant, Public Involvement Officer | Doug Wilmot, G.F. District Construction Engineer |
| Jean Riley, Planner | James Combs, District Traffic Engineer |
| Scott Bunton, Engineering Cost Analyst | Linda Cline, District R/W Design |

Scope of Work Report

Scope of Work

The proposed project has been nominated as a Major Rehabilitation without added capacity.

- a. The work will include pulverization, grading, gravel, culverts, plant mix surfacing, seal and cover, delineation and new signing and pavement markings.
- b. The proposed construction method for the project is reconstruction from station 10+00 to approximately station 19+50, pulverization from stations 19+50 to 617+00 and widening from stations 10+00 to 276+00. Existing grade will be maintained from stations 10+00 to 19+50 with a minimum 0.30' grade raise proposed from stations 19+50 to 619+50.
- c. On April 14, 2004, the Great Falls PCC approved the use of \$90,000 of Urban Program funds for the Bootlegger Trail Reconstruction for construction of the urban portion from 36th Avenue NE to U.S. Highway 87.

Purpose and Need

The narrow width and over-optimum moisture content of the subgrade makes this project a candidate for pulverization, new plant mix surfacing and widening. An overlay in 2010 by Great Falls District Maintenance has corrected the extremely poor surfacing but is a temporary fix and not expected to last. Rehabilitating and widening the surface will reduce maintenance costs and accommodate future growth.

Project Location and Limits

- a. The proposed project is located on U-5213 and S-225 in Cascade County. The project begins at station 10+00 (RP 0.000) on U-5213 (the Jct. with N-10), and continues northerly 11.489 miles to station 617+00 (RP 11.489) on S-225 (RP 11.489 is the Cascade/Chouteau County line). The road is locally referred to as Bootlegger Trail.
 1. The project is located in the Great Falls urban limits from the beginning of the project to station 16+62 (RP 0.137). This segment of roadway is functionally classified as an urban minor arterial.
 2. Route U-5213 changes to S-225 at station 16+62 (RP 0.137). From stations 16+62 to 617+00, S-225 is functionally classified as a major collector. At station 617+00 the pavement ends and the roadway turns to gravel surfacing with the connection to the existing roadway ending at station 619+50.
- b. Some work on N-10 (US 87) will need to be completed to provide adequate turn lanes with this project. According to the current Road log, the approximate reference posts for consideration of work on N-10 are RP 2.89 to RP 3.12.
- c. The use of STPU funds has been allocated for the work on U-5213.

Physical Characteristics

- a. From the beginning of the proposed project to station 225+00±, the project traverses level terrain through moderate residential development with the exception of a 2,400' crest vertical curve, VPI station 159+60, that has a -4.2% downgrade.
- b. Existing slopes are 5:1's with v-ditches from 10+00 to 16+62. From 16+62 to 225+00 slopes are predominately fill slopes with existing fill heights between 3' and 7'.
- c. Between stations 225+00± and 302+00±, the PTW travels through a set of reverse horizontal curves and ascends a 6.79% grade. This is the maximum gradient on the project and exceeds the Geometric Design criteria for Rural Collector Roads maximum grade of 5% in level terrain. Fill slopes vary between 6' and 28' in height. Between stations 225+00± and 302+00±, the 6% grade is coincident with a non-standard horizontal curve, radius of 955', that does not meet the Geometric Design criteria for Rural Collector Roads minimum radius of 1200'. This same location has existing maximum fill slopes of 28'± located behind guardrail.
- d. The project encounters level terrain through the Benton Lake National Wildlife Refuge from station 319+90 to station 497+35 with fill slope heights between 6' and 12'.
- e. From stations 497+35 to 619+50, the project crosses level terrain through dry land crops with fill slope heights between 3' and 8'.

Scope of Work Report

- f. The existing horizontal and vertical alignments do not vary much from the adjacent terrain. 5:1 fill slopes exist throughout the project and will be perpetuated. Few existing cut sections are located on the project and all are v-ditches.
- g. There are fourteen cross drains within the project limits.
- h. The segment from stations 10+00 to 301+00 was constructed in 1967 under project S 312(5).
 - 1. According to the road log the typical section has a 30' finished surface with 12' travel lanes and 3.0' shoulders. It consists of 0.2' of compacted plant mix bituminous surfacing on 0.2' of crushed top surfacing and 1.0' to 1.5' of compacted crushed base surfacing. The surfacing is constructed with 5:1 inslopes.
 - 2. The 2010 maintenance overlay added additional plant mix through this section of roadway. The roadway width measures 28' which includes two 12' travel lanes and 2.0' shoulders. In some areas, additional plant mix was added to correct for dips in the profile. Recent asphalt cores indicate an average plant mix depth of 0.43'.
- i. The segment from stations 301+00 to 470+50 was constructed in 1960 under project S 312(2).
 - 1. The typical section has a 28' finished surface width which includes two 12' travel lanes and 2.0' shoulders. It consists of 0.2' of compacted plant mix bituminous surfacing on 0.15' of compacted top surfacing, 0.65' of compacted crushed base, and 0.9' of compacted select surfacing, with 5:1 inslopes.
- j. The segment from stations 470+50 to 617+00 was constructed in 1960 under project S 336(2).
 - 1. The typical section has a 28' finished surface width which also includes two 12' travel lanes and 2.0' shoulders. It consists of 0.2' of compacted plant mix bituminous surfacing on 0.15' of compacted top surfacing, 0.65' of compacted crushed base, and 0.75' of compacted select surfacing, with 5:1 inslopes.
- k. The Pavement Management 2009 Condition and Treatment Report rated the project area as follows:

RP to RP	Ride	Rut	Alligator Cracking Index	Misc. Cracking Index	Recommended Treatment (Construction)
0.000 to 0.126	50 (poor)	60.1 (fair)	91.8 (good)	65.5 (fair)	Minor Rehab
0.126 to 5.877	56.2 (Poor)	59.9 (Fair)	53.9 (Poor)	61.9 (Fair)	Minor Rehab
5.877 to 9.091	62.0 (Fair)	59.6 (Fair)	28.8 (Poor)	54.4 (Poor)	Reconstruct
9.091 to 11.502	56.9 (Poor)	53.6 (Fair)	22.0 (Poor)	44.8 (Poor)	Reconstruct

- l. A Maintenance overlay of the project was done in 2010 from RP 0.0 to approximately RP 5.8 which substantially changes the PVMS data through these reference posts. The Pavement Management 2011 Condition and Treatment Report is as follows:

Scope of Work Report

STPS-STPU 225-1(1)0 2 km N of Great Falls - North

Project Manager: Christie McOmber, P.E & Steve Prinzing, P.E.

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RP to RP	Ride	Rut	Alligator Cracking Index	Misc. Cracking Index	Recommended Treatment (Construction)
0.000 to 0.126	75 (Good)	80.5 (Good)	100 (Good)	100 (Good)	Do Nothing
0.126 to 5.877	76.6 (Good)	88.2 (Good)	89.4 (Good)	90.5 (Good)	M AC Crack Seal & Cover
5.877 to 9.091	52.2 (Poor)	48.69 (Fair)	30.1 (Poor)	61.9 (Fair)	M AC Reactive Maintenance
5.877 to 9.091	52.2 (Poor)	48.69 (Fair)	30.1 (Poor)	61.9 (Fair)	M AC Reactive Maintenance
9.091 to 11.502	50.1 (Poor)	44 (Fair)	18.9 (Poor)	45.7 (Poor)	M AC Reactive Maintenance

Although the 2011 PVMS data reflects a roadway in good condition needing only periodic maintenance, the 2009 PVMS data is more accurate. The maintenance overlay was a temporary fix due to the rapidly deteriorating existing surface. The Great Falls District has selected a pulverization of the existing surfacing as the best construction treatment for this roadway.

Traffic Data

A. U-5213 from US 87 (RP 0.000) to 36th Avenue NE (RP 0.102)

2010 AADT = 5,260 Present
 2014 AADT = 6,030 Letting Year
 2034 AADT = 12,010 Design Year
 DHV = 1,440
 Com Trucks = 0.8%
 18 Kip ESALs = 34
 AGR = 3.5%

B. U-5213 from 36th Avenue NE (RP 0.102) to Lake Flat Lane on S-225 (RP 5.000)

2010 AADT = 1,350 Present
 2014 AADT = 1,440 Letting Year
 2034 AADT = 1,980 Design Year
 DHV = 280
 Com Trucks = 4.7%
 18 Kip ESALs = 17
 AGR = 1.6%

C. Lake Flat Lane on S-225 (RP 5.000) to Cascade/Chouteau County Line (RP 11.489).

2010 AADT = 410 Present
 2014 AADT = 430 Letting Year
 2034 AADT = 540 Design Year
 DHV = 80
 Com Trucks = 4.9%
 18 Kip ESALs = 5
 AGR = 1.1%

Scope of Work Report

Crash Analysis

The crash analysis was taken from July 1, 2000 through June 30, 2010 from RP 0.0 to RP 11.376 (The new update of the road log puts the County Line at RP 11.489).

- A. The All Vehicles Crash Rate is 1.16, Severity Index is 2.00, and Severity Rate is 2.31 compared to the Statewide Average for Rural State Secondary Routes of 1.47, 2.32, and 3.43 respectively.
- B. The total number of recorded crashes is 53 with 1 fatal, 2 incapacitating injury, 16 non-incapacitating and other injury, and 34 property damage only crashes.
- C. Clusters or Projects:

In 2004, Safety Management was made aware of concerns by the Cascade County Commissioners of the curve on S-225 at the approach to N-10. Upon reviewing the crash history of the area combined with the approved design exceptions for this project, Safety Management suggested the installation of an oversized "STOP AHEAD" sign coupled with a flasher for southbound traffic on Bootlegger Trail at the approach to N-10.

The installation will be completed with the project.

RP 3.0 to RP 3.5 and RP 3.6 to RP 4.06 have shown up as a cluster area. There was no addressable trend, therefore the only recommendation was to continue to monitor.

- D. Remarks:

- 1. The main crash trend is single vehicle off the road crashes. 37 of the 53 reported crashes involved a single vehicle, with 17 citing overturn as the first or most harmful event.
 - a) 26 of the drivers were under the age of 21.
 - b) 8 of the 53 crashes cited ditch as the first or most harmful event.
 - c) 6 of the crashes cited fence as the first or most harmful event.
- 2. The reconstruction project will bring the roadway to current standards.
 - a) Check fencing as per MDT policy.
Fencing will be upgraded with the project.
 - b) Check utility pole clearances.
 - c) Upgrade mailbox supports.
Some mailboxes have been moved to cluster sites and additional cluster boxes are proposed.
Relocate arrow board in the curve north of N-10 with Maintenance. Upgrade guardrails and guardrail end treatments. *This was completed with the recent maintenance overlay.*
 - d) Install an oversized "STOP AHEAD" sign for southbound traffic on Bootlegger Trail at the approach to N-10 and check feasibility to add a solar flasher.

Major Design Features

- a. **Design Speed.**

From stations 10+00 to 16+62 within the City of Great Falls Urban Limits the design speed is 35 mph.

From stations 16+62 to 619+50 the City of Great Falls Urban Limits to the Cascade/Chouteau County line and end of the plant mix surfacing, the design speed is 60 mph.

- 1) The design speed for this project will be 35 mph in the urban section, stations 10+00 to 16+62, and 60 mph in the rural section stations 16+62 to 619+50.
- 2) Posted speed limits are 45 mph in the Great Falls Urban portion of the project and 70 mph daytime/65 mph nighttime speed limit just outside the Great Falls Urban limits.

- b. **Horizontal Alignment.**

- 1) The existing horizontal alignment begins at station 10+00 on U-5213 with a curve and then proceeds on a tangent through the urban portion of the project. This curve radius of 150' is below the minimum curve radius for an urban minor arterial with a 35 mph design speed. The PC of the curve is located at station 10+28.93, 28.93' from the Jct. of N-10 (US 87) and U-5213, a stop controlled intersection. This segment of the project will be reconstructed and widened to a 42' finished top width. Due to the existing businesses, maintaining the existing alignment and widening to

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the left is proposed. A Design Exception was approved, April 19th, 2012, to perpetuate the existing 150' radius curve on a 4% super.

- 2) S-225 begins at station 16+62 and proceeds on a tangent to an angle point at station 25+24.36. The proposed or existing project proceeds through two 10,000' radius curves, PI stations 69+59.94 and 97+91.60 and another angle point at station 140+61.16. The project then proceeds on tangent to a set of S-curves. The first curve has a radius of 1,910', the second curve in the S-curve configuration has a radius of 1,920' and the third curve has a 955' radius which is below the minimum of 1,200' for a rural collector with a 60 mph design speed. The 955' curve is coincident with the +6.79% grade. To bring this curve up to standards, a reconstruct section with significant cut and fill would be necessary. Due to the low AADT of 410 and limited Secondary highway funds, the District proposes to correct the super-elevation on the existing curves, repair a large dip, and replace the guardrail. A Design Exception was approved, April 19th, 2012, to leave in place a nonstandard existing horizontal curve that is coincident with an existing grade greater than 5%.
- 3) The fourth curve at PI station 315+79.99, located at the top of the 6.79% grade, has a radius of 1,435'. Three more curves with radii of 2,865', 2,865' and 5,730' PI stations 357+84.14, 399+04.42 and 496+39.28 respectively comprise the remainder of the project. All curve radii will be perpetuated with the proposed design.
- 4) The project transitions from widening on the left to widening right at station 19+50 and transitions back to widening left from station 244+50 to station 256+50 with a centerline shift that closely follows the existing alignment. Widening to the right is proposed to avoid impacts to a utility corridor on the left. The shift to the left is proposed in order to avoid an established tree row right and does not impact utilities. Widening ends at station 276+00.
- 5) These curves meet the criteria for a rural collector with a 60 mph design speed. The existing horizontal alignment is maintained through this final portion of the project.

c. Vertical Alignment.

- 1) The existing vertical alignment is relatively level from the beginning of the proposed project until station 264+00 with the exception of a 2,400' crest vertical curve, VPI station 159+60, that has a -4.2% downgrade.
- 2) At VPI station 264+00 the alignment begins climbing and encounters a +6.67% grade at VPI station 281+60 which transitions to a 1,800' crest vertical curve with a +6.79% grade from VPI 290+00 to VPI 309+80. The maximum grade for level terrain is +5% and for rolling terrain is +7%. A design exception was approved, April 19th, 2012, for grades above 5%.
- 3) Although there are several crest and sag vertical curves on the remaining portion of the project, the grades on the last 5.5 miles of the project are relatively flat varying between 0.010% and 3.968%.
- 4) All vertical curves provide the stopping sight distance of 570' for the 60 mph design speed.
- 5) A digout is planned for stations 358+43 to 376+91 to a depth of 2.0' below the top of the subgrade soils or to a depth where the subgrade soils are firm and stable, whichever is shallower.

d. Typical Sections.

- 1) The project begins at station 10+00 on U-5213 and will generally follow the existing alignment. The Urban segment of the project will be reconstructed and widened to a 42' finished top width with 12' travel lanes, a 12' median left turn bay and 3' shoulders. A Design Exception was approved, April 19th, 2012, for nonstandard 3' shoulders in the Urban portion. The Urban limits end at station 16+62.
- 2) The project transitions from a reconstruct to a pulverization at approximate station 19+50. The proposed 42' finished top width with 12' travel lanes, a 12' median left

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turn bay and 3' shoulders is maintained to station 22+00 where the roadway transitions to a 46' finished top width with 12' travel lanes, a 14' median and 4' shoulders. A Design Exception was signed April 19th, 2012 for a median width of 12' in the rural portion (stations 16+62 to 22+00) to accommodate turn lanes for an existing and proposed subdivision.

The proposed 46' typical width will match existing from station 40+01 to station 57+21.

- 3) At station 57+21 the roadway transitions to a 32' finished top width which will consist of two 12' travel lanes and 4' shoulders.
- 4) Through the Rural section, stations 16+62 to 276+50, the existing finished top width is 30'. Widening will take place mainly on the right through this section switching to the left through the first S curve, transitioning from stations 244+00 to 256+00. 6:1 plant mix surfacing in-slopes with 5:1 fill slopes are proposed. A Design Exception was signed July 12th, 2004 approving the use of 5:1 fill slopes.
- 5) At station 276+00 the roadway width transitions to a 28' finished top width with 12' travel lanes and 2' shoulders and maintains this width to station 323+00.
- 6) At station 323+00 the roadway transitions from a 28' top width to a 24' top width and maintains this width to the end of the project at station 617+00. A design exception was approved, April 19th 2012, for the finish top width reduction to 24'. The Roadway Width Decision Team approved the 24' finished top width on February 28th, 2012.
- 7) Station 319+87 to station 497+35 comprises the limits of the Benton Lake WLR.

e. Surfacing Design

- 1) The project begins at station 10+00 on U-5213 and will be reconstructed with 1.20' of crushed aggregate course and 0.30' plant mix surfacing with 6:1 surfacing and fill slopes. The Urban limits end at station 16+62.
- 2) The project transitions from a reconstruct to a pulverization at approximate station 19+50. From stations 19+50 to 276+50 recent asphalt cores indicate an average plant mix depth of 0.43'. Pulverization of the top 0.40'+ of existing plant mix combined with 0.30' to 0.35' base course followed with a 0.30' plant mix overlay is proposed. Surfacing Design has stated that through this section there is approximately 1.0' of quality base.
- 3) The widening section through stations 19+50 to 276+50 consists of 1.40' of crushed aggregate course with the previously mentioned 0.30' of plant mix.
- 4) Through the Rural section, stations 276+50 to 619+85, 0.50' pulverization of existing plant mix and base course with a 0.30' plant mix overlay is proposed.
- 5) In 2011 the District Materials Lab took asphalt cores throughout the project:
 - a) Asphalt material between RP 0.1 and RP 5.9 averaged 0.43' in depth.
 - b) From RP 5.9 to RP 11.5 asphalt material averaged 0.17' in depth.
 - c) All cores showed moisture damage and stripping to severe stripping.
 - d) In some areas the plant mix is deeper due to correction of dips in the profile during the maintenance overlay.

f. Grading.

- 1) Grading for this project will be accomplished using Embankment-in-place. Since this is a rehabilitation project with pulverization and widening very little excavation is required. Subgrade soils are A-7 and A-6, are highly bentonitic, highly plastic, and moisture content is typically over-optimum. Due to the poor soils special borrow will be placed in the top 2' of subgrade where subgrade depths allow and locations of the special borrow will be shown on the plans and cross sections. The embankment quantity is approximately 55,000 cubic yards. Since the embankment will be constructed almost entirely of borrow and the special borrow will be measured in place, the use of embankment-in-place is appropriate for this project. Any grade

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raises will be minimal and will take place using crushed aggregate course as a leveling course.

g. Slope Design.

- 1) Existing 5:1 fill slopes are present throughout the majority of the project. In areas of steeper fill heights the fill slopes are 4:1. Most roadside ditches are flat bottom ditches although v-ditches are present in many areas and will be perpetuated in order to not disturb the vegetative soils, avoid utility relocation and avoid right-of-way acquisitions in environmentally sensitive areas.
- 2) Site constraints make the use of 10' ditches impractical through the Urban portion of the project.
- 3) A Design Exception was approved, April 19th, 2012, to perpetuate the existing v-ditches. The v-ditch transitions back to the previous ditch section with 2:1 and 1.5:1 back slopes. From station 266+50 through 268+50 the back slopes were flattened to 3:1's as per the Geotechnical Sections request.
- 4) A cut section exists from 240+50 to 248+50 that consists of 5:1 slopes, 10' ditches and 5:1 back slopes which transitions to a v-ditch at station 249+00.
- 5) Poor soils in the area will require some topsoil importation.
- 6) A Design Exception was signed July 12th, 2004 for the use of 5:1 fill slopes.
- 7) On the left slopes were flattened to 4:1's from stations 284+15 to 286+53, eliminating the need to replace guardrail.

h. Geotechnical Considerations.

- 1) The Geotechnical Section has taken cores at various locations. From the Geotechnical report dated March 2, 2007:
- 2) The soils along this project are poor. Highly expansive, moisture-sensitive clays, and shales predominate. The ratio of residuals to initial shear strength suggest the subgrade will be difficult to stabilize if it is weakened by heavy construction equipment. High concentrations of soluble sulfates complicate stabilization techniques using cement or lime.
- 3) Expansion and contraction of the clay subgrade will cause premature pavement failure and an uneven riding surface, while a loss of soil strength will cause rutting and shoving during and after construction.
- 4) The Geotechnical Section recommends building a thick gravel section and the placement of special borrow in the top 2' of the subgrade. Although the thick granular section will not prevent moisture changes or the associate volume changes of the underlying soils, it will ease the differential changes which cause pavement distress and will bridge wheel loads over softer areas that may form if moisture contents increase to over-optimum.
- 5) The use of an impermeable geomembrane to protect the subgrade from moisture changes and the resulting premature pavement failure is another good option in regard to long-term performance. (In this instance the Geotechnical Section has decided against the use of impermeable geomembrane since only the widening portion would benefit. The cost/benefit ratio does not support its use.)
- 6) The material available for embankment fill slopes on this project is very poor; consisting mainly of highly expansive moisture sensitive soils. Existing embankment fill slopes consist of expansive clays and residual shale. Slopes steeper than 3:1 using unclassified fill from the project should not be considered. The entire fill section (toe-of-slope to toe-of-slope) should be compacted to 95% density for the sake of long-term stability.

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- a) Any cut slopes of the project between RP 5.4 and RP 6.0 should not be steeper than a 3:1. All remaining cut slopes are estimated to be stable at 2:1 or flatter. Cut material is estimated to be rip-able with conventional excavation equipment.
- b) Foundation treatment is recommended for all culverts larger than 36".
- c) All bentonitic claystone excavated with the project should be wasted and not used for fill on the project.

i. **Hydraulics.**

All 14 cross drains are dry except during runoff periods.

There are no live streams on this project.

Listed below are the in-place mainline culverts:

Number of Culverts	Size
Nine	24" RCP
Two	30" RCP
One	36" RCP
One	42" RCP
One	72" RCP

In conversations with the MDT - Great Falls District Maintenance, all cross drains function adequately and no water has overtopped the road but the culverts require frequent cleaning due to the clay soils.

Minor channel modifications are required for inlet and outlet channel alignment for mainline culverts located at stations 265+59, 268+93 and 584+44.

Existing culverts in good condition will be lengthened where feasible.

There are no delineated floodplains within the limits of this project and no formal floodplain permits will be required prior to beginning construction.

Due to reports of ponding at 36th Ave NE, a new approach pipe and ditch grading are proposed.

A closed basin had been identified on the left between stations 96+00± and 118+00±. The equalizer culvert located at 96+67 will be removed and a new culvert placed at 101+00 to perpetuate the existing conditions.

Anticipated construction activities will be in accordance with the special conditions and management practices of nationwide permits.

- j. **Bridges.** There are no bridges within the project limits.
- k. **Safety Enhancements.** Widening the existing roadway from stations 10+00 to 276+00, the addition of turn lanes from the beginning of the project, station 10+00 to station 57+21, flattening slopes, replacing the existing guardrail and the addition of approach culvert special end sections or racets, are the major safety enhancements proposed for this project. Due to the pulverization process the guardrail will be removed, salvaged to maintenance, and replaced with new guardrail where slope flattening is not feasible. Additional guardrail will be added to protect the pump house located adjacent to the roadway at station 174+27 on the right.
- l. **Context Sensitive Design.** The Benton Lake Wildlife Refuge begins on the right at station 319+83 and on the left at station 346+12 and ends both left and right at station 497+58. Pulverization with a 0.30' overlay will eliminate any impacts to the Wildlife Refuge with the exception of a single construction permit from stations 367+50± to 368+50± left.
- m. **Traffic.** The Traffic and Geometric Section has looked at options for the intersection of S-225 and N-10 at the beginning of the project. Extending the left turn lane for northbound left turns onto Bootlegger and the layout of a right turn lane for southbound US-87 traffic onto Bootlegger is proposed.

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Both approach radii at 36th Ave NE, station 14+79 left, have been enlarged to accommodate truck turning movements.

A median with various left turn bays is proposed from station 10+00, the beginning of the project to the existing turn lane for the Eagle Crossing subdivision station 40+01. The 12' median is proposed in order to avoid right-of way impacts to local businesses. The 12' median was extended for an additional 265' into the Urban to Rural transition area with a 45 mph speed limit and as soon as right-of way allows, the width transitions to a 14' median. A Design Exception was signed April 19th, 2012 for a median width of 12' in the rural portion. Traffic has confirmed that the typical section meets geometric guidelines. This median, at the Eagles Crossing subdivision, has been extended to include a second approach further to the north, station 56+44 on the left. Both Eagles Crossing approaches on the left, stations 49+36 and 56+44, will have the approach radii enlarged for truck turning movements.

Signing and Geometric plans, including pavement markings and new delineation will be required for the project.

- n. **Miscellaneous Features.** Most of the mailboxes on the project have been relocated on approaches and included in cluster boxes. A new mailbox count is required and the U.S.P.S. will be contacted in order to determine a course of action for the remaining mailboxes. Mailbox turnouts are not anticipated due to the number of approach roads available. Topsoil may be imported from station 118+00± to station 190+00± due to the bentonite claystone soil composition through this area. New fencing will be added on the left from approximately 19+50 to 42+54 and where existing fencing is disturbed.
- o. **Pedestrian/Bicycle/ADA.** There are no existing pedestrian or bicycle facilities and no evidence of use has been documented. No ADA features exist within the project limits and none are proposed.

Design Exceptions

An approval for exceptions to design criteria for Urban Minor Arterials (Non-NHS) and for Rural Collector Roads (Secondary System) was signed April 19th, 2012, to allow for:

1. A nonstandard existing horizontal curve.
2. Nonstandard 3' shoulders in the Urban portion.
3. A two-way left turn lane width of 12' in the rural portion.
4. To leave a nonstandard existing horizontal curve in the rural portion that is coincident with an existing grade greater than 5%.
5. To leave existing V-ditches located intermittently through the project.
6. Proposed V-ditches in areas of utility concerns.
7. A width reduction from a 28' finished top width to 24' finished top.

An approval for exceptions to design criteria for Rural Collector Roads (Secondary System) was signed July 12th, 2004, to allow for:

1. Nonstandard 5:1 fill slopes (for 0' to 10' fills).
2. Nonstandard 5:1 ditch inslopes.

Right-of-Way

Existing right-of-way varies from approximately 50' to 80' from centerline throughout most of the project. At station 158+15 on the right the right-of-way extends 340' and at station 159+88 it extends 230' left both due to a steep cut section and a county road (Bootlegger Lateral) right. From station 307+18± to station 310+36±, the top of Rattlesnake Hill, right-of-way extends to 142' right. New right-of-way acquisition is proposed primarily on the east or right side of the roadway in widening areas. The use of construction permits will be required by the proposed design.

No right-of-way will be required through the Benton Lake National Wildlife Refuge, although a construction permit will be required at one location. Originally a Design Exception was requested and approved for a barn roof section between stations 367+50± and 368+50± left. The barn roof slope was proposed in order to avoid a large fill in an abandoned canal that was created in conjunction with the Benton Lake WLR. A standard fill would extend into the Wildlife Refuge. Although only 100' in length

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the barn roof section was considered undesirable and the decision was made to request a construction permit from the Benton Lake National Wildlife Refuge. The proposed fill slopes will be designed at a 5:1 and a construction permit has been added to the project.

Access Control will not be implemented with this project.

Utilities/Railroads

- a. There are numerous utilities and utility crossings within the project limits.
 1. Oil Line, fiber optic, telephone, natural gas and water lines on the left and underground TV, natural gas and fiber optic on the right and power lines both left and right are present between stations 10+00 and 14+76 (36th Ave. NE).
 2. A waterline parallels the roadway on the right between station 11+65 and station 42+95, and then crosses centerline to feed the Eagles Crossing Subdivision on the left.
 3. Gas line on the left continues to station 193+17. Gas line on the right begins again at station 169+23, crosses the roadway and ends at station 189+73 left. A gas line is present on the left between station 317+40 and station 346+50.
 4. Fiber optic and numerous underground Telephone lines parallel the roadway on the left between station 10+00 and station 314+35 and on the right between station 227+27 and station 317+63.
 5. There are several overhead power crossings throughout the residential development from station 10+00 to 302+12. An overhead power line follows the project on the left from station 38+36 to station 313+77.
 6. Overhead power distribution lines cross the project at station 69+56 and at station 545+63.
 7. Utility relocations will be required throughout the project.
- b. There is no railroad within the project limits.
- c. At the public meeting for this project, one issue that came up was the Water District. The Company is: Homestead Acres Water & Sewer, #8 - 7th Street S, Great Falls, Montana.
 1. It has been determined that the water district is a Public Utility. This runs parallel to the roadway between station 168+75 and station 227+18 on the right, crosses the roadway and ends at station 232+16 left. Additional fill over the existing water lines is likely the only impact and will be addressed with the project.
 2. A pump house, located within the clear zone on the right at station 174+28 and associated with the water district, will be protected with guardrail.

Maintenance Items

No issues have been discussed with MDT Maintenance Forces at this time

Environmental Considerations

The Environmental Services Bureau (ESB) has completed the necessary coordination with the Benton Lake National Wildlife Refuge (Refuge) staff regarding the proposed 5:1 fill slope in the Benton Lake Canal which is located on Refuge property. The ESB has also completed the necessary coordination with the Montana State Historic Preservation Office regarding the proposed impacts to the Benton Lake Canal. The ESB concludes that Section 4(f) of the US DOT Act of 1966 will not apply to the proposed impact to the Benton Lake National Wildlife Refuge and Section 4(f) of the US DOT Act of 1966 will not apply to the proposed impact to the Benton Lake Canal as a result of the 5:1 fill slope.

The ESB will prepare the Programmatic Categorical Exclusion and obtain approval from the Federal Highway Administration.

This project is Not Likely to Jeopardize the Continued Existence of Sprague's pipit. The project area does not provide the necessary habitat requirements for any other Threatened, Endangered, or Candidate

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species. There would be no effect on any threatened, endangered, proposed, or candidate species as a result of this project.

Any trees that need to be removed as a result of this project should be removed outside the nesting season of April 30-August 15. Wetlands occur at various locations in the project area. Roadway widening and alignment changes have the potential to impact these wetlands. A wetland delineation was conducted in the summer of 2012 and provided to the design team for placement on the project plans and impact analysis.

The ESB will secure the appropriate environmental permits. A Clean Water Act Section 404 permit and a Stream Protection Act 124 Notification will likely be required.

Energy Savings/Eco-Friendly Considerations

With this project, existing surfacing materials are planned to be reused through pulverization and recycling plant mix. These activities will increase the amount of sound base material underneath the flexible pavement and reduce haul costs, which would have been required to remove this material from the project site.

Work Zone Safety and Mobility:

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). These issues are discussed in more detail under the Traffic Control and Public Involvement sections.

Other Projects

No other projects in the vicinity are anticipated at this time.

Traffic Control

Traffic will be maintained throughout the project construction using appropriate signing, flagging, lane closures, etc. Detours may be considered to accelerate construction if acceptable routes are available.

A TMP meeting will be held to better determine Traffic Control costs and procedures.

Local access will be maintained at all times.

The MUTCD will be utilized to guide the application of all traffic control plans.

Intelligent Transportation Systems (ITS) Features

No ITS features are located within the project limits.

Public Involvement

A public informational meeting was held on March 25, 2004.

1. One of the main points of discussion at the public meeting was the intersection of S-225 and N-10. The original proposal developed for the meeting was to extend 36th Ave NE to N-10. The affected landowners, as well as other members of the public, argued against this idea.
2. Following the public informational meeting, a meeting with the City, County, and MDT design personnel was held to discuss options at the intersection. It was at this meeting where the consensus of the group was to continue on a design that improved the existing location.

We will continue with a Level A public involvement plan for the remainder of the project design. A news release explaining the project and including a department point of contact has been issued.

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When the design is further along and complete 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 as it pertains to them.

Once construction begins, affected landowners will be sent construction notifications and information.

The public involvement plan may be adjusted if controversial issues are identified.

Cost Estimate

The following items were included in the roadwork PFR cost estimate: pavement removal, pulverization, plant mix surfacing, embankment, new culverts, paint stripping, topsoil and seeding. The total PFR cost estimate including the inflation factor of 0.11346 and an IDC of 13.35% was \$10,445,911. The cost per mile was approximately \$654,274.

The Alignment and Grade cost estimate included pulverization, plant mix surfacing, embankment, new culverts, guardrail, paint stripping, topsoil and seeding. The total AGR cost estimate including the inflation factor of 0.0676835 and an IDC of 9.64% was \$8,705,516. The cost per mile is approximately \$587,885.

The SOW cost estimate includes, besides the items listed above, new approach pipe, permanent erosion control items and special borrow. The cost per mile is approximately \$600,411.

The difference in cost estimates is due to the updated bid prices, fine tuning quantities, difference in inflation factors and IDC. As the design progresses contingencies are lowered and quantities compiled that more accurately reflect the actual costs. The cost per mile is \$600,411.

Project Name		Estimate	Inflation	w/INF + IDC
		Costs	(INF)	(from PPMS)
Road work		\$6,764,732		
Traffic Control		\$140,000		
Subtotal		\$6,904,732		
Mobilization	10%	\$690,473		
Subtotal		\$7,595,205		
Contingencies	18%	\$1,367,137		
Total CN		\$8,962,342	\$449,285	\$10,454,435
CE	10%	\$896,234	\$44,928	\$1,045,443
IDC:	11.08%		TOTAL	\$11,499,878
Inflation Factor (ppms)			<i>0.050130267</i>	

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 2012.

Project Management

The Great Falls District will be responsible for the development of the plans. Christie W. McOmber, P.E., and Steve Prinzing are the project managers for this project.

This project is not under full FHWA oversight.

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Ready Date

The current ready date shown in the Project Management System is December 1, 2013. The tentative letting date is March 25, 2014. This project is slightly ahead of schedule with its projected finish date of November 2013.

Preliminary Field Review Report

STPS-STPU 225-1(1)0 2 km N of Great Falls - North

Project Manager: Christie McOmer, P.E.

