



Montana Department of Transportation

Jim Lynch, Director

Brian Schweitzer, Governor

2701 Prospect Avenue
PO Box 201001
Helena MT 59620-1001

June 20, 2006

Carl James
Federal Highway Administration (FHWA)
585 Shepard Way
Helena, MT 59601-9785

**MASTER FILE
COPY**

RECEIVED

JUN 28 2006

**Subject: Statewide Pavement Preservation Project
MONTANA CITY – EAST HELENA
STPS 518-1(5)0
CN: 5967000**

**LEGISLATIVE ENVIRONMENTAL
POLICY OFFICE**

~~Dear Carl James,~~

The MDT Environmental Services Bureau has reviewed the Preliminary Field Review/Scope of Work Report (PFR/SOW) for the subject project. Based on the completed Environmental Checklist for Pavement Preservation Projects (Checklist), we have determined that the Statewide Programmatic Categorical Exclusion for these types of projects would cover this project. For your information, I have attached a copy of the PFR/SOW (including the location map) and the Checklist.

If you have any questions or concerns, please contact Heidi Bruner at 444-7203. She will be pleased to assist you.

Sincerely,

Thomas L. Hansen, PE
Engineering Section Supervisor
Environmental Services Bureau

cc (w/o attach):	Mick Johnson	MDT, Great Falls District Administrator
	Jean A. Riley, PE	MDT, Environmental Services Bureau Chief
	Paul Ferry, PE	MDT, Highway Engineer
	Mark Wissinger, PE	MDT, Construction Engineer
	Suzy Price	MDT, Contract Plans Bureau Chief
	Dave Jensen	MDT, MDT Fiscal Programming Section Supervisor
	Heidi Bruner	MDT, Environmental Services

cc (w/attach):	Bob Seliskar, PE	FHWA, Operations Engineer
	Montana Legislative Branch Environmental Quality Council (EQC)	
	Jefferson County Office	
	Lewis and Clark County Office	
	File	

encl.

TLH:hsb:S:\PROJECTS\GREAT-FALLS\5967000\5967ENCDCSP1_PAVE PRES.DOC



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

RECEIVED

JUN - 7 2006

ENVIRONMENTAL

Memorandum

To: Jean A. Riley, P.E.
Chief - Environmental Services Bureau

From: Paul R. Ferry, P.E. 
Highways Engineer

Date: June 2, 2006

Subject: **STPS 518-1(5)0**
Montana City-East Helena
CN 5967000
Project Work Type - 181 - Resurfacing-Asphalt

The Preliminary Field Review/Scope of Work Report is attached. The project meets the criteria for the Statewide Programmatic Categorical Exclusion for pavement preservation projects. The environmental checklist is also attached.

Please send the notification for the environmental documentation to the FHWA. If you need additional information, contact Jim Davies at 444-6227.

PRF.dmk:K:\STANDARD-FORMS\ENV-CHECKLIST-COV-MEMO.DOC

Attachments

cc:
Paul Ferry
Tom Hansen
Highways File

(FOR PROJECTS WITH NO RIGHT-OF-WAY INVOLVEMENT)

Applicant cannot be authorized to proceed with the proposed work until ALL of the conditions of the checklist have been satisfied

ENVIRONMENTAL CHECKLIST FOR PAVEMENT PRESERVATION PROJECTS (CRACK SEALING, SEAL & COVER, THIN OVERLAYS, MILL & FILL, PLANT MIX LEVELING, MILL OGFC, MICRO SURFACING, FOG SEAL)

Project No.: 5967000 ID: STPS 518-1(5)0 Project Name: Montana City-East Helena

Reference Post (Station) 0.0 to Reference Post (Station) 4.5

Applicants Name: MT DOT Address: 2701 Prospect Ave. Helena, MT 59620

Type of Proposed Pavement Preservation Activity: Overlay, Seal and Cover, Pavement Markings

Table with 2 main columns: Impact Questions and [Y/N] There are Potential Impacts; or Item Requires Documentation, Evaluation, Mitigation Measures, and/or (a) Permit(s). Rows include questions about river impacts, threatened species, water quality, wetlands, hazardous waste, and Indian Reservations.

8. Magnitude and significance of potential impacts: To be completed by applicant. The proposed project does not have any potential impacts, and the Statewide Programmatic Categorical Exclusion for Pavement Preservation projects is the appropriate Environmental Document for the proposed work.

JAI

Checklist prepared by: Jim Davies, Butte District Project Design Engineer

5/26/06

Applicant (Design Project Manager) Title Date

Approved by:



**ENVIRONMENTAL ENGINEERING
SECTION SUPERVISOR**

6/20/06

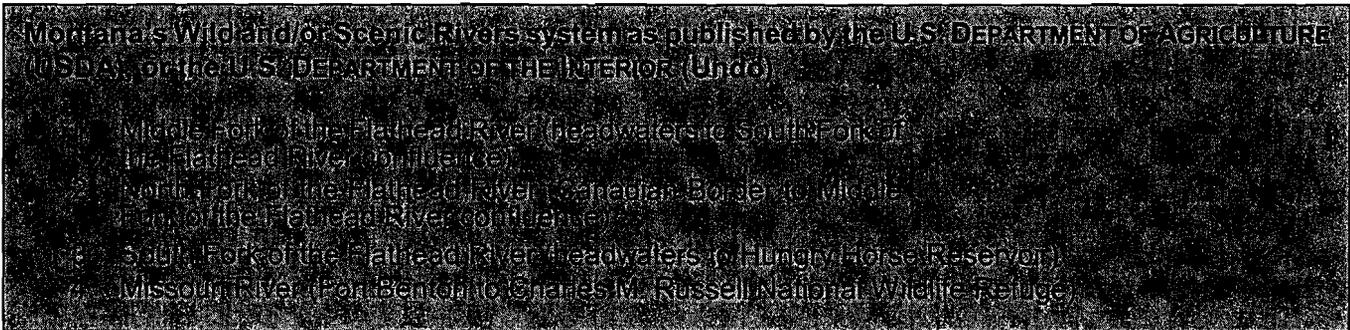
Environmental Services

Title

Date

(when items 1, 2, 3, 3a, 4, 4a, 4b, 5, 6, 6a, or 7 are checked "Yes")

- A. The applicant shall complete the checklist indicating a "Yes" or "No" for each item, except number 8 which may require a narrative response.
- B. When a "Yes" is indicated on any number of items 1 through 7, MDT must explain why and provide the appropriate documentation, evaluation, permit, and/or mitigation measures required to satisfy environmental concerns for the project. Use attachments if necessary.
- C. If the applicant checks "Yes" for any one item, the checklist and MDT's mitigation proposal, documentation, evaluation and/or permit shall be submitted to MDT Environmental Services. Contact Number 444-7228.
- D. When the applicant checks a "Yes" item, MDT cannot be authorized to proceed with the proposed work until Environmental Services reviews the information and signs the checklist.
- E. MDT will obtain all necessary permits or authorizations from other entities with jurisdiction prior to beginning the Pavement Preservation Activity.





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

Memorandum

To: Paul Ferry, P. E.
Highways Engineer

From: Damian Krings, P. E.
Road Design Engineer

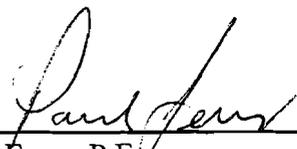
Date: June 1, 2006

Subject: **STPS 518-1(5)0**
Montana City-East Helena
CN 5967000
Work Type 181-Resurfacing-Asphalt

This is a combined Preliminary Field Review & Scope of Work Report

We request that you approve the Preliminary Field Review/Scope of Work Report for the subject project.

Approved



Paul Ferry, P.E.
Highways Engineer

Date

6/6/06

We are requesting comments from those individuals on the distribution list. We will assume their concurrences, if no comments are received within two weeks from the approved date. **The report is also being distributed under a separate cover as a Scope of Work Report for comments and approval.**

Distribution:

Paul Ferry, Highways
Damian Krings, Road Design
Mark Goodman, Hydraulics
Danielle Bolan, Traffic
Pierre Jomini, Safety

Bryce Larsen, Survey
Susan Rowell, Proj. Mngmnt
Jim Walther, Engineering
Rich Jackson, Geotechnical
Susan Sillick, Research

Sandy Straehl, Planning
Kent Barnes, Bridge
Kevin Brewer, Butte Maint..
Kam Wrigg, Helena Maint.

cc: Dave Jensen, Fiscal Programming
FHWA
Highways File

Combined Preliminary Field Review And Scope of Work Report

A preliminary field review for this project was held May 12, 2006 with the following personnel in attendance:

Jim Davies, Project Design Manager-Helena
Joe Olsen, Butte DESE
Bryan Miller, Bridge-Helena
Ed Shea, Pavement Analysis-Helena
Scott Gerken, Road Design-Helena

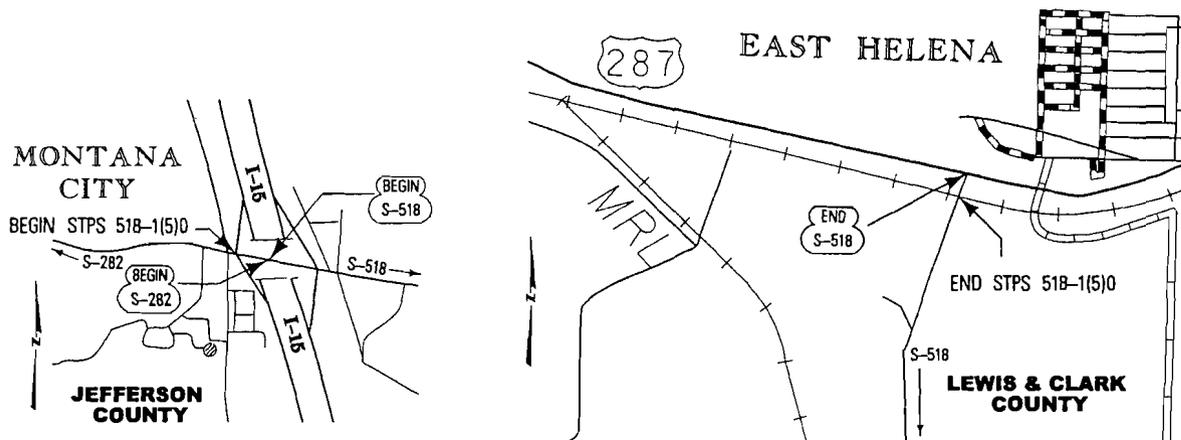
Joe Walsh, Butte Projects Engineer
Kam Wrigg, Helena Maintenance
Gary Larson, Planning-Helena
Kevin Millhouse, Butte Maintenance

Proposed Scope of Work

This project is programmed as a Pavement Preservation project to overlay and seal and cover the section of Secondary Route 518/MT 518. Work will also include guardrail upgrades and pavement markings. The Helena Road Design Section will design this project. **This project will be developed in English units.**

Project Location and Limits

- Location: Jefferson and Lewis & Clark Counties on Secondary Route 518/MT 518, in the following townships, ranges, and sections:
T 9 N, R 3 W, sections 12, 13, 14
T 9 N, R 2 W, sections 6, 7
T 10 N, R 2 W, section 31
- Begin: West end of Montana City I-15 interchange at RP 0.1±, Metric station 3+77.08 on STPS 282-1(4)0, which is the east end of the Roundabout project
- End: Just south of railroad crossing at RP 4.447±, English as-built station 12+63.2 on S-412(3) at East Helena
- Length: 4.6± miles



Stationing runs north to south which is opposite of the reference posts on the project. The functional classification is major collector. A map is attached at the end of this report.

As-built Projects

RP 0.0 to RP 0.1 on S-282 IIG 15 3, year 1967
 RP 0.0 to RP 0.460 on S-518 County construction
 RP 0.460 to RP 0.994 on S-518 S-412(6), year 1969
 RP 0.994 to RP 4.481 on S-518 S-412(3), year 1963

Physical Characteristics

1. Surfacing information is provided below:

<u>From</u>	<u>To</u>	<u>Top Thickness (in)</u>	<u>Bottom Thickness (in)</u>	<u>Top Width (ft)</u>
RP 0.0*	RP 0.1*	4.2	14.0	34
RP 0.0#	RP 0.460#	6.1	18.0	35
RP 0.460#	RP 0.994#	4.3	14.0	28
RP 0.994#	RP 1.957#	6.1	12.0	28
RP 1.957#	RP 4.458#	6.1	12.0	28

*On S-282

#On S-518

2. Existing Roadside Geometrics: The horizontal and vertical alignments will be perpetuated for this project. The terrain is rolling in a rural area.

3. PvMS Index Numbers & Recommended Treatment for 2005:

<u>Section</u>	<u>Ride</u>	<u>Rut</u>	<u>ACI</u>	<u>MCI</u>	<u>Construction</u>	<u>Maintenance</u>
RP 0.00 to RP 0.1*	68.4	57.7	94.3	78.3	AC Thin O'lay	AC Thin O'lay
RP 0.00 to RP 3.29#	73.9	66.4	82.2	71.2	AC Thin O'lay	AC Thin O'lay
RP 3.29 to RP 4.48#	74.1	62.8	82.3	60.6	AC Thin O'lay	AC Thin O'lay

*On S-282

#On S-518

4. There is one bridge located within the project limits.

<u>Structure ID</u>	<u>Intersection</u>	<u>Location</u>
S00518000+00001	Montana City Intch.	Montana City

Traffic Data

2006 ADT= 2,150 Present
 2007 ADT= 2,210 Letting Year
 2027 ADT= 3,620 Design Year
 DHV= 510
 D= _____
 T= 8.5%
 EAL= 114
 AGR= 2.5%

Accident History

ENGINEERING STUDY EVALUATION

DATE: March 10, 2006

DESCRIPTION: MONTANA CITY – EAST HELENA

ROUTE & RP: STATE SECONDARY 518 rp 000+0.000 – 004+0.481

DATA TIME FRAME: 7-1-1995 TO 6-30-2005

STATEWIDE AVERAGE FOR RURAL STATE SECONDARY STUDY AREA

ALL VEHICLES ACCIDENT RATE: 1.68¹⁾ 2.60

ALL VEHICLES SEVERITY INDEX: 2.39²⁾ 2.33

ALL VEHICLES SEVERITY RATE: 4.02³⁾ 6.06

TRUCK ACCIDENTS: 2

TOTAL RECORDED ACCIDENTS: 76

I. VARIATIONS FROM AVERAGE OCCURRENCE:

- 79.0% dry road vs. 67.7% statewide average for rural state secondary
- 51.3% dark – not lighted vs. 40.0% statewide average for rural state secondary
- 38.2% collision w/ wild animal as most harmful event vs. 13.4% statewide average for rural state secondary
- 9.2% collision w/ guardrail end as most harmful event vs. 0.4% statewide average for rural state secondary

II. CRASH CLUSTERS OR SAFETY PROJECTS:

In 2002 the section between reference posts 0.5 and 1.2 and the section between reference posts 2.1 and 2.8 were identified as crash cluster locations. Speed advisory plates were added to the existing curve warning signs and delineators were installed by maintenance forces within the first location. No feasible countermeasures to address a specific crash trend were identified for the second.

In 2003 the section between reference posts 1.2 and 2.6 was identified as a crash cluster location and in 2004 the section between reference posts 1.6 and 2.6 was identified as a crash cluster location. No feasible countermeasures to address a specific crash trend were identified.

Signs, pavement markings and a traffic island were installed on S-518 at reference post 4.481, the intersection with N-8/US 12, in project STPHS 0002(257) TRAFFIC IMPVT - HELENA AREA UPN 3075, completed in April of 2001.

III. REMARKS:

The most common recorded crash was a collision with a wild animal (29), usually at night (19). All except one of the wild animal collisions occurred between reference posts 0.9 and 3.8. One of the three recorded fatal crashes was attributed to avoiding deer on the road "at a high rate of speed". Ensure that the appropriate warning signs are in place and in good condition.

Also, the reported incidence of collision with a guardrail end is well above the statewide average for rural secondary highways. Upgrading the guardrail end treatments to meet current standards should be considered.

There were six recorded crashes at the intersection with John St. (rp 0.15±). In three of the six, an eastbound vehicle attempted to turn south onto John St. too fast and collided with either a roadside sign or vehicle stopped at the stop sign on John St. The other three crashes were a rear end collision on John St., a rear end collision on S-518 and a left turn, opposite direction collision on S-518.

Verify with the Rail Highway Safety Section about railroad crossing surface upgrade.

¹⁾Accident rates are defined as the number of accidents per million vehicle-miles.

²⁾Severity index is defined as the ratio of the sum of fatal and incapacitating injury accidents times 8 plus the number of other injury accidents times 3 plus the number of property damage accidents to the total number of accidents.

³⁾Severity rate is defined as the accident rate multiplied by the severity index.

Major Design Features:

Design Speed

The design speed for this project is 50 mph based on MDT standards for Non-NHS Secondary roads in rolling terrain.

Alignment

Both the horizontal and vertical alignments will be perpetuated with this pavement preservation project.

Typical Section

The typical section will consist of a 0.15 ft. overlay on a 0.07 ft. isolation lift for a total surfacing thickness of 0.22 ft. The finished top width will be 26 ft (4:1 slopes). The public approaches will be paved to right-to-way; the private and farm field approaches will be paved to the standard 3 ft. width. Cracks have already been sealed on this project.

There are no existing rumble strips and rumble strips will not be installed with this overlay project.

Guardrail

Guardrail will be upgraded with this overlay project. The guardrail height was measured to be 2.1 ft. Guardrail that does not meet standard height after the overlay will be reset.

The terminal sections on the approach ends of the guardrail at the two railroad crossings, RP 0.68 and RP 0.988, will be upgraded to current standards. The terminal sections on the departure ends will be left as-is, because they are outside the clear zone. The exception is the westbound lane at the railroad crossing at RP 0.988. The guardrail at this location is within the clear zone, and will be replaced with 2 optional terminal sections placed back to back.

In addition to the railroad crossing guardrail, there are eight BCTs that will be replaced with optional terminal sections.

Geotechnical Considerations

No geotechnical considerations are anticipated on this project.

Hydraulics

No hydraulic considerations are anticipated on this project.

Bridges

<u>Structure Number</u>	<u>Location</u>	<u>Year Built</u>	<u>SR</u>	<u>Structure Sufficiency Status</u>	<u>Deck Health Index</u>	<u>Previous Deck Work</u>
S00518000+00001	Montana City Interchange	1968	72	Not Deficient	44	1994 Deck Patched and Thin Polymer Overlay added

The Montana City Interchange has a concrete deck that is in poor condition. The deck surface has large areas of delamination, spalling and map cracking. A membrane, asphalt overlay and seal and cover will be placed on the deck to extend the service life of the deck. The existing bridge guardrail consists of a concrete curb with SBR-T6 steel rail. This guardrail satisfies the

Montana Guardrail Policy to be left in place. The bridge approach rail has been modified in 1994 and does not meet current standards. The approach rail is adequate and will be left in place.

Traffic

Pavement markings are included in this project. The cross walk pavement marking at RP 0.46 will be perpetuated, as well as the railroad words and symbols and stop bar at the railroad crossings.

Miscellaneous

Cold milling is required on this project at the railroad crossings and the bridge ends.

The county dump road approach at RP 3.1 will be paved to the right-of-way.

Design Exceptions

No design exceptions are anticipated for this pavement preservation project.

Right-of-Way

No new right-of-way will be required for this project.

Utilities/Railroads

There are overhead and underground utilities within the project limits. This pavement preservation project will not require utility involvement.

There are three at grade railroad crossings with the following conditions and changes:

- RP 0.68±
 - Words and symbols and stop bar that will be perpetuated.
 - BCTs on both ends of eastbound guardrail, approach end only to be replaced with optional terminal section as the departure end is outside the clear zone.
 - Westbound guardrail has BCT on approach end, blunt end on departure. Approach end only to be replaced with optional terminal section as the departure end is outside the clear zone.
- RP 0.988±
 - Words and symbols and stop bar that will be perpetuated.
 - BCTs on both ends of eastbound guardrail, approach end only to be replaced with optional terminal section as the departure end is outside the clear zone.
 - Westbound guardrail has BCT on approach end, blunt end on departure. This entire run of guardrail will be replaced with optional terminal sections back to back
- RP 4.447±
 - Words and symbols and stop bar that will be perpetuated

Rail Highway Safety section will verify the upgrades on the rail road crossings.

A railroad flagging agreement will be required.

Access Control

Access Control is not being implemented on this project.

Survey

It is anticipated that survey will not be needed for this pavement preservation project. If survey is needed, the Helena Road Design Section will gather any survey data that may be needed. **This project will be developed in English units.**

Environmental Considerations

This project meets the criteria for a statewide programmatic categorical exclusion under the pavement preservation projects agreement with the FHWA. The following note will be included in the plan package "If situations are observed during construction that may potentially impact water quality, including wetland areas, utilize Best Management Practices (BMP) and/or temporary erosion control measures as necessary to protect the resource. Refer to Section 208 of the MDT Detailed Drawings for erosion and sediment control Best Management Practices. The installation of temporary erosion control measures will be paid as Miscellaneous Work." No water quality permits are anticipated at this time. Environmental checklist has been submitted to Environmental Services.

Traffic Control

A traffic control plan will be developed as the design of the project progresses. Traffic will be maintained during construction activities throughout the project.

Appropriate traffic control devices and signing will be used throughout the project in accordance with the *Manual of Uniform Traffic Control Devices*.

Public Involvement

This will be Level A public involvement: a news release explaining the project and including a department point of contact.

Cost Estimate and Ready Date

The cost estimate developed for the initial project nomination is shown in the following chart:

Road Work	\$509,641
Bridge Work	\$100,000
Traffic Control	\$30,000
Subtotal	\$639,641
Mobilization (5%)	\$31,982
Subtotal	\$671,623
Contingencies (15%)	\$100,743
Subtotal	\$772,366
Inflation (3 X 1 yr)	\$23,171
Total CN	\$795,537
CE (10%)	\$79,554

This estimate does not include any indirect costs. This project is anticipated to be built in 2007.

