



October 18, 2011

Brian Hasselbach  
Federal Highway Administration (FHWA)  
585 Shepard Way  
Helena MT 59601-9785

Subject: Statewide Programmatic Categorical Exclusion for Pavement Preservation Project  
Carlton Creek Road- Maclay Road  
NH 7-2(54)78  
Control Number: 7607 000

Dear Brian Hasselbach:

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 conclude 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 signed Checklist. We have supplied environmental-related Special Provisions to the Contract Plans Bureau for inclusion in the project plans.

If you have questions or concerns, please contact Susan Kilcrease at (406)523-5842. She will be pleased to assist you.

Sincerely,

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

Attachments: PFR/SOW Report, Environmental Checklist

copies: w/signed checklist:	Paul Ferry, P.E.	Highway Engineer
	Ben Nunnallee, P.E.	Project Design Manager
copies:	Doug Moeller	Missoula District Administrator
	Susan Kilcrease	Missoula District Project Development Engineer
	Montana Legislative Branch	Environmental Quality Council (and w/PFR/SOW)
	Environmental Services File	
	Tom Martin, P.E.	Environmental Services Bureau Chief
	Kevin Christensen, P.E.	Construction Engineer
	Suzy Price	Contract Plans Bureau Chief
	Dawn Stratton	Fiscal Programming Section
Alyce Fischer	Fiscal Programming Section	
Gene Kaufman, P.E.	FHWA Operations Engineer	

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(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 Number: NH 7-2(54)78 Control No 7607000 Project Name: Carlton Creek Rd - Maclay Rd  
Reference Post (Station): RP 77.9 (231+90.63) To Reference Post (Station): RP 81.5 (423+73.17)  
Applicant's Name: Montana Department of Transportation Address: PO Box 201001; Helena, MT 59620-1001  
Type of Proposed Pavement Preservation Activity: Mill, Overlay, Seal & Cover

Table with 3 columns: Impact Questions, Yes, No, Comment. Contains 16 rows of questions regarding environmental impacts like water quality, wetlands, and air quality.

Checklist prepared by:

Ben Nunnallee Applicant  
Approved by: [Signature] Environmental Services

Project Design Engineer  
Title  
ENVIRONMENTAL ENGINEERING SECTION SUPERVISOR  
Title

10/4/2011 Date  
[Signature] Date

(When any of the above questions are checked "Yes")

The Applicant is **not** authorized to proceed with the proposed work until the checklist has been reviewed and approved, as necessary, and any requested conditions of approval have been incorporated.

- A. Complete the checklist items 1 through 7, indicating "Yes" or "No" for each item. Include comments, explanations, information sources, and a description of the magnitude/importance of potential impacts in the right hand column. Attach additional and supporting information as needed. The checklist preparer, by signing, certifies the accuracy of the information provided.
- B. When "Yes" is indicated on any item, the checklist preparer 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. **Any proposed mitigation measures will become a condition of approval.**
- 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 Bureau. Electronic format is preferred. 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 Bureau 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.
- F. The links above are provided as a starting point for potential sources of information for completing the checklist. The Applicant is encouraged to consult Environmental Services Bureau and/or other information sources.



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

**Memorandum**

To: Tom S. Martin, P.E, Chief, Environmental Services Bureau  
 From: Paul R. Ferry, P.E., Highways Engineer *PRF*  
 Date: October 4, 2011  
 Subject: NH 7-2(54)78  
 Carlton Creek Road – Maclay Road  
 UPN 7607000  
Work Type 160 – Minor Rehabilitation

*2011 OCT 7 11:00 AM*  
**RECEIVED**  
 OCT - 7 2011  
**ENVIRONMENTAL**

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

Please send the notification for the environmental documentation on this project to the FHWA. If you need additional information, contact Ben Nunnallee at 406-523-5846.

Attachments (Environmental Checklist and PFR)

copies: Damian Krings, w/attach (checklist only)  
 Ben Nunnallee, Missoula District Project Design  
 Highways File

*Forwarded by E. Martin  
by SK*

Environmental Services					
Ad	Info	Change	Date 10/21	Attach	Initial
			Routing		
			Bureau Chief		
			Engineering Supervisor		
			Resources Supervisor		
			Haz Waste Supervisor		
			EGCP Supervisor		
			<i>Sweep</i>		
			<i>PAF</i>		
			<i>JON</i>		
			<i>BRIAN</i>		



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

**Memorandum**

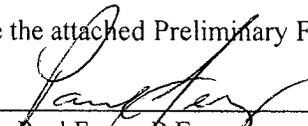
To: Paul Ferry, P.E.  
Highways Engineer

From: Shane Stack, P.E.  
Missoula District Preconstruction Engineer

Date: October 4, 2011

Subject: NH 7-2(54)78  
Carlton Creek Road – Maclay Road  
UPN 7607000  
Work Type 160 – Minor Rehabilitation

Please approve the attached Preliminary Field Review Report/Scope of Work Report.

Approved  Date 10/5/11  
Paul Ferry, P.E.  
Highways Engineer

The same report is also being distributed under a separate cover as a Scope of Work Report for comments and approval recommendations.

cc (w/attach.):  
Damian Krings, Road Design Engineer

## Preliminary Field Review/Scope of Work Report

UPN 7607000, NH 7-2(54)78, Carlton Creek Road – Maclay Road  
Project Manager: Ben Nunnallee, P.E.

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### **Introduction**

An onsite field review was held on August 3, 2011. The following people attended:

Ben Nunnallee – Missoula District Projects Engineer  
Sandy Dorsett – Missoula District Design Supervisor  
Dan Hill – MDT Surfacing Design  
Joe Leary – Missoula District Road Design  
Jim Cornell – MDT Traffic Signing

### **Proposed Scope of Work**

The proposed project has been nominated to preserve the asphalt pavement and to extend the service life of the roadway. A 0.20 ft mill, 0.20 ft plant mix overlay in the driving lanes and a 0.15 ft mill, 0.15 ft plant mix overlay in the passing lanes, and a full width seal & cover are proposed for this project. Detectable Warning Devices will be added to the existing multi-use path at public intersections. Replacement of the signing and pavement markings will also be included.

### **Purpose and Need**

The purpose of this project is to preserve the existing pavement to extend the service life of the existing asphalt surfacing. This section of highway is due for pavement resurfacing before the deterioration of the pavement begins to accelerate.

### **Project Location and Limits**

This project is located in Missoula County on National Highway Route 7 (N-7) / U.S. Highway 93, beginning at the south side of the intersection of U.S. Highway 93 and Carlton Creek Road. The project begins at Reference Post (RP) 77.9±, English Station 231+90.63, converted from Metric Station 70+77.50 on As-Built plans NH 7-2(25)78 F. The project extends northerly 3.6 miles to RP 81.5±, English Station 423+73.17, converted from Metric Station 129+15.34 on As-Built plans NH 7-2(25)78 F at the south side of the intersection of U.S. Highway 93 and Maclay Road. This segment of road is located in Township 11 N, Range 20 W (Sections 35,26,23,14, and 11).

N-7 is on the National Highway System and is functionally classified as a Principal Arterial – Non-Interstate. See the attached location map.

### **Work Zone Safety and Mobility**

At this time, Level 1 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 of a Traffic Control Plan (TCP). A limited Public Information (PI) component to address public notification will also be included. These issues are discussed in more detail under the Traffic Control and Public Involvement sections.

### **Physical Characteristics**

The existing terrain within the project limits is level, in a rural setting. Public, private, and farm field approaches are located throughout the project length.

In 2001, the roadway from RP 77.8 (Metric As-Built Station 69+60.83) to RP 83.3 (Metric As-Built Station 159+55.84) was reconstructed under project NH 7-2(25)78F. Design speeds varied for this project: 69+60.83 to 145+00, 110 km/hr (English station 228+37.37 to 475+72.18, 70 mph); 145+00 to 159+55.84, 80 km/hr (English station 475+72.18 to 523+48.56, 50 mph).

## Preliminary Field Review/Scope of Work Report

UPN 7607000, NH 7-2(54)78, Carlton Creek Road – Maclay Road

Project Manager: Ben Nunnallee, P.E.

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The following is a summary of the typical sections and the locations of each typical section from metric project NH 7-2(25)78F that are pertinent to this project (the stations have been converted from the metric stations):

- 231+90.63 to 241+14.17 – 78' (4 travel lanes, 1 center turn lane, 2 shoulders)
- 241+14.17 to 245+97.64 – Transition
- 245+97.64 to 364+00.92 – 64' (4 travel lanes, 2 shoulders)
- 364+00.92 to 368+93.05 – Transition
- 368+93.05 to 377+47.38 – 78' (4 travel lanes, 1 center turn lane, 2 shoulders)
- 377+47.38 to 378+69.42 – Transition
- 378+69.42 (only) – 90' (4 travel lanes, 1 center turn lane, 2 shoulders, 1 SB right turn lane)
- 378+69.42 to 383+62.86 – Transition
- 383+62.86 to 384+61.29 – 76' (4 travel lanes, 1 SB right turn lane, 2 shoulders)
- 384+61.29 to 386+74.54 – Transition
- 386+74.54 to 409+94.09 – 64' (4 travel lanes, 2 shoulders)
- 409+94.09 to 414+86.22 – Transition
- 414+86.22 to 423+73.17 – 78' (4 travel lanes, 1 center turn lane, 2 shoulders)

The travel lanes are 12' wide, the center turn lane is 14' wide, the SB right turn lane is 12' wide, and the shoulders are 8' wide.

The existing surfacing consists of:

- 4.75 in. Bituminous Plant Mix
- 1.75 in. Crushed Top Surfacing
- 13.75 in. Crushed Base Course

Core samples have been obtained from the MDT Missoula District Materials Lab in Missoula to verify that there will not be any problems with the proposed milling depths. The existing depths range from 0.32' to 0.44' with an average of 0.39'. We have not yet received the stripping analysis, but do not currently foresee any problems that would cause the scope of the project to change.

Surfacing inslopes are 6:1 with shallow roadside ditches.

There are two simple horizontal curves on the project, both of which have a 70 mph design speed. Both of the horizontal curves meet the minimum requirements for radius and superelevation for the given design speed. Following is a table summarizing the horizontal curve data:

As-Built PI Station	Radius (ft)	Length (ft)	As-Built Super (%)	Super (%) (meeting current standards)
240+55.61	11,483	1,213	2.0	2.0
311+96.75	5,741	988	4.0	4.0

There are four vertical curves on this project. All curves meet stopping sight distance standards for a 70 mph design speed. There are no areas on the project that exceed the maximum allowable grade. The maximum gradient on the project is 0.457%. Following is a table summarizing the vertical curves.

## Preliminary Field Review/Scope of Work Report

UPN 7607000, NH 7-2(54)78, Carlton Creek Road – Maclay Road  
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<b>Vertical Curves</b>			
<b>As-Built PI Station</b>	<b>Length (ft)</b>	<b>Grade<sub>1</sub> (%)</b>	<b>Grade<sub>2</sub> (%)</b>
242+78.22	984	-0.202	-0.553
265+74.80	984	-0.553	-0.096
360+89.24	984	-0.096	-0.244
408+62.86	984	-0.244	-0.036

The Pavement Management System generated the following performance indices for the survey year 2010 and treatment recommendations for the years 2011 and 2013:

### TREATMENT YEAR 2011/13

BEG RP	END RP	RIDE	RUT	ACI	MCI	CONST. TREAT. REC.
75.55	83.24	81.0 (good)	51.4 (fair)	70.2 (fair)	96.9 (good)	Minor Rehab Rut ('11), Minor Rehab Rut ('13)

### Traffic Data

2011 AADT = 16,260 (Present)  
 2012 AADT = 16,830 (Letting Year)  
 2032 AADT = 33,490 (Design Year)  
 DHV = 3,520  
 Com Trucks = 3.2%  
 Growth Rate = 3.5% (Annual)  
 ESAL's = 269

### Crash Analysis

Safety Management completed a crash analysis for the five-year period from 01/01/06 through 12/31/10 for the segment RP 77.9 to RP 81.5:

Total Recorded Crashes:	58
Fatal Injury Crashes:	0
Incapacitating Injury Crashes:	4 (5 injuries)
Non-incapacitating Injury Crashes:	5 (10 injuries)
Other Injury Crashes:	5 (5 injuries)
Property Damage Only Crashes:	44

The crash rate was 0.53 as opposed to a statewide average of 1.07, the severity index was 1.83 as opposed to a statewide average of 2.14, and the severity rate was 0.97 as opposed to a statewide average of 2.29.

One variation from the average occurrence was identified:

- 17.2% right angle collisions vs. 5.9% statewide average for rural NINHS routes

The crash trend is single vehicle - wild animal collisions (30 of 58). Of the 20 multiple vehicle collisions, 17 were right angle collisions.

The following are suggestions that Traffic and Safety would like to be examined (followed by our responses addressing each suggestion):

- Evaluate/upgrade intersection warning signs for consistency throughout the project.
- Response: Signing will be upgraded with this project.

No Safety projects are scheduled for this section of roadway.

### **Major Design Features**

This project will be developed in accordance with the latest Guidelines for Nomination and Development of Pavement Projects. The plans will be developed in English units.

- a. **Design Speed.** The geometric design criteria for Rural Principal Arterials (National Highway System – Non-Interstate) indicate that the design speed should be 70 mph based on the level terrain. The posted speed limit on the project is 70 mph. Design speed is not an applicable design criterion for preventative maintenance projects.
- b. **Horizontal Alignment.** The existing horizontal alignment will not be changed with this pavement resurfacing preventative maintenance project.
- c. **Vertical Alignment.** The existing vertical alignment will not be changed with this pavement resurfacing preventative maintenance project.
- d. **Typical Sections and Surfacing.** The current typical section widths will remain unchanged. The roadway will receive a mill and overlay (Grade S – ¾” Plant Mix with a PG Binder 70-28) only in the driving lanes and passing lanes followed by a full width chip seal (Cover Type II and CRS-2P seal oil). The outside driving lanes will be milled 0.20’ and the interior passing lanes are in better shape and will only be milled 0.15’. The interior two-way left turn lane and the shoulders will not be milled and overlaid, and neither will the southbound right turn lane at Rowan Road.
- e. **Geotechnical Considerations.** There are no geotechnical considerations for this resurfacing project. The existing roadside slopes will not be disturbed and there are no grading considerations.
- f. **Hydraulics.** There are no hydraulics considerations for this pavement resurfacing preventative maintenance project.
- g. **Bridges.** There are no bridges on this segment of N-7.
- h. **Traffic.** The existing pavement marking layout will be used to re-stripe the roadway. Traffic Engineering will provide the quantities, details, and specifications for interim paint and final epoxy. These items will be included in the road plans package. Traffic Engineering also will provide the necessary plans, quantities, details, and specifications for upgrades to the signing and delineation.
- i. **Pedestrian/Bicycle/ADA.** There is an existing 10’ wide bike/ped path on the LT side of the highway along the entire length of this project. Due to the nature of this preventative maintenance project, the existing facilities will not be affected and no new accommodations will be added. Detectable Warning Devices will be added to the existing multi-use path at public intersections.
- j. **Miscellaneous Features.**
  - It is anticipated that this project will generate about 6,000 CY of millings. The Florence Park Board has indicated that they are willing to store 5,500 CY of the millings at the Florence Park parking lot on Florence Carlton Loop and at the Florence Park parking lot on Iowa Ave. Ravalli County has an interest in taking some millings as well but have not yet determined how many cold millings they will take and where they will store them. MDT will store any remaining cold millings in the maintenance yard located just south of the intersection of Old Highway 93 and Rowan Road.
- k. **Context Sensitive Design Issues.** There are no special context sensitive design issues identified for this pavement resurfacing preventative maintenance project.

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### Other Projects

There is another pavement preservation project adjacent to the south end of this project:  
**Florence – North, UPN 7648000**, from RP 74.2 to RP 77.9. We currently anticipate that we will tie the two cold mill and overlay projects together in order to reduce costs.

### Location Hydraulics Study Report

A Location Hydraulics Study Report will not be needed for this project.

### Design Exceptions

The design exception process does not apply to pavement preservation projects.

### Right-of-Way

There will be no right-of-way involvement on this project.

### Cold-In-Place Recycle

MDT Surfacing has determined that this project is not a good candidate for Cold-In-Place Recycling due to the high traffic volume, high ESALs, and short project length. Due to these factors a CIR project would not be cost feasible because an additional overlay would be required.

### Access Control

This section of highway is a Limited Access Control Facility.

### Utilities/Railroads

Existing manholes, water valves, and storm drains (if any) within the roadway will be protected so that they will not be impacted by the pavement resurfacing.

Railroads –There is a railroad that parallels US 93 on the east side, however the project will not have any construction activities that take place on railroad right-of-way. There will be no railroad involvement on this project.

### Intelligent Transportation Systems (ITS) Features

Implementation of ITS solutions will not be included with this project.

### Survey

Survey will not be required for this project.

### Public Involvement

A Level A public involvement plan is appropriate for this project. A News Release explaining the project and including a department point of contact will be distributed to the local media.

### Environmental Considerations

No significant environmental impacts or issues were identified. We reviewed the project and determined it meets the criteria for the Programmatic Agreement as a Categorical Exclusion under the provisions of 23 CFR 771.117(d) as signed by MDT on February 18, 2005 and concurred by FHWA on March 4, 2005. The Environmental Checklist for Pavement Preservation Projects has been submitted separately.

### Energy Savings/Eco-Friendly Considerations

As discussed previously, the majority of the millings will be given to the Florence Park Board so that this asphalt pavement may be recycled and used on another project. We are currently

## Preliminary Field Review/Scope of Work Report

UPN 7607000, NH 7-2(54)78, Carlton Creek Road – Maclay Road

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coordinating with Ravalli County to see how many of the remaining millings they want. The leftover millings not taken by Ravalli County will be retained by MDT Maintenance.

### Experimental Features

There are no experimental features identified for this pavement resurfacing preventative maintenance project.

### Traffic Control

Traffic will be maintained through the construction of the project with appropriate signing, flagging, pilot cars, etc., in accordance with the Manual on Uniform Traffic Control Devices. The work zone will require single lane closures during construction operations. A minimum of one lane in each direction will remain open for traffic at all times during the construction of this project. Possible stipulations governing the time of year, the days of the week during which construction activities may take place, time of day, and maximum length of roadway that may be under construction at a time may be specified in the contract in order to minimize public impact.

A Transportation Management Plan (TMP) consisting of a Traffic Control Plan (TCP) is appropriate for this project. Due to the relatively simple nature of the work, the TCP will consist of only special provisions.

### Project Management

The Missoula District Design Crew will be responsible for developing the plans. Ben Nunnallee will manage the design of this project. See contact information below:

Ben Nunnallee, P.E.  
Montana Department of Transportation  
2100 West Broadway, PO Box 7039  
Missoula, MT 59807-7039  
(406) 523-5846  
e-mail: bnunnallee@mt.gov

This project is not under full FHWA oversight.

### Preliminary Cost Estimate

The nomination cost estimate (without IDC) that was originally programmed for this project was \$2,055,000 (CN = \$1,868,000 and CE = \$187,000). The total nomination cost estimate including IDC was \$2,471,199.

### *Current Cost Estimate:*

	Estimated cost	Inflation (INF) (from PPMS)	TOTAL costs w/INF + IDC (from PPMS)
Road Work	\$1,151,000		
Traffic Control	\$75,000		
<b>Subtotal</b>	<b>\$1,226,000</b>		
Mobilization (10%)	\$123,000		
<b>Subtotal</b>	<b>\$1,349,000</b>		
Contingencies (8%)	\$108,000		
<b>Total CN</b>	<b>\$1,457,000</b>	<b>\$246,910</b>	<b>\$1,868,166</b>
<b>CE (10%)</b>	<b>\$146,000</b>	<b>\$24,741</b>	<b>\$187,200</b>

# Preliminary Field Review/Scope of Work Report

UPN 7607000, NH 7-2(54)78, Carlton Creek Road – Maclay Road  
Project Manager: Ben Nunnallee, P.E.

<b>TOTAL CN+CE</b>	<b><u>\$1,603,000</u></b>	<b><u>\$271,651</u></b>	<b><u>\$2,055,366</u></b>
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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 9.64% as of FY 2012. The Inflation costs currently shown are based on the 5 year maximum because a Let Date has not yet been entered into PPMS.

### Ready Date

This project has a Ready Date of February 1, 2012. This project was originally nominated for construction in 2013 but due to previous pavement preservation projects being Let early and due to the rapidly deteriorating condition of this roadway, it is currently being designed so that it could be constructed in 2012 if funding is made available during the update to the Tentative Construction Plan this fall. The project is currently on schedule in OPX2.

### Site Map

The project site map follows.

