MDT
Montana Department of Transportation
2701 Prospect Avenue
PO Box 201001
Helena MT 59620-1001
Michael T. Tooley, Director
Steve Bullock, Governor

December 11, 2014

Brian Hasselbach
Federal Highway Administration (FHWA)
585 Shepard Way, Suite 2
Helena, Montana 59601

Subject: Statewide Programmatic Categorical Exclusion for Pavement Preservation Project
Lolo - Missoula
NH 7-2(58)83
Control Number: 8732000

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 Environmental Checklist. Environmental-related Special Provisions will be included in the contract plans.

If you have questions or concerns, please contact Susan Kilcrease at 523.5842 or me at 444.7203. We will be pleased to assist you.

Sincerely,

Heidy Bruner

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

Attachments: PFR/SOW Report, Environmental Checklist

e-copies w/checklist encl.:
Ed Toavs, Missoula District Administrator
Tom Martin, P.E., Environmental Service Bureau Chief
Heidy Bruner, P.E., ESB Engineering Section Supervisor
Paul Ferry, P.E., Highways Engineer
Suzy Price, Contract Plans Bureau Chief
Lisa Hurley, Fiscal Programming Section Supervisor
Tom Erving, Fiscal Programming Section
Susan Kilcrease, Missoula District Project Development Engineer
Joshua Dold, P.E., Project Design Manager
Montana Legislative Branch Environmental Quality Council
File
HB:smk: S:\PROJECTS\MISSOULA\8732000\8732000ENPPP_FHWA.doc

(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(58)83 **Control No** 8732000 **Project Name:** Lolo – Missoula

Reference Post (Station): 83.2 **To Reference Post (Station):** 90.9

Applicant's Name: Montana Department of Transportation **Address:** PO Box 201001; Helena, MT 59620-1001

Type of Proposed Pavement Preservation Activity: Work Type 183 – Resurfacing – Microsurfacing

IMPACTS ON THE PHYSICAL ENVIRONMENT (TO BE COMPLETED BY APPLICANT)

	Impact Questions	[Y/N] There are Potential Impacts; or Item Requires Documentation, Evaluation, Mitigation Measures, and/or (a) Permit(s).		
		Yes	No	Comment (Use attachments if necessary)
1.	Does the proposed action require work in, across, and/or adjacent to a listed or proposed Wild or Scenic River? (See http://www.rivers.gov/wildriverslist.html)	☐	☒	
2a.	Are there any listed or candidate threatened or endangered species in the vicinity of the proposed activity?	☒	☐	The nearby Bitterroot River is occupied by bull trout and is designated as bull trout critical habitat.
2b.	Will the proposed action adversely affect listed or candidate threatened or endangered species, or adversely modify critical habitat?	☐	☒	The project as proposed will not impact the Bitterroot River, therefore it will not adversely affect bull trout or adversely modify bull trout critical habitat.
3.	Will the proposed action have potential to affect water quality? If 'Yes', an environment-related permit or authorization may be required. If 'No', go to question 4.	☐	☒	
3a.	If the answer to question 3 is yes, is a Clean Water Act Section 402 permit (i.e., MPDES or NPDES permit)required? (Need for an MPDES or NPDES is generally triggered by a disturbance area equal to or greater than one acre.)	☐	☐	☒ N/A
3b.	Is the proposed project within an MS4 Permit Area? (See http://deq.mt.gov/wqinfo/MPDES/StormWater/ms4.mcpx). (Billings, Great Falls, and Missoula Urbanized areas, and Butte, Bozeman, and Helena)	☒	☐	The northerly 0.7 miles of the project from approximate RP 90.2 to 90.90 is in the Missoula Urbanized Area.
4.	Does the proposed project have impacts to wetlands , streams, or other water bodies? If 'No', go to question 5.	☐	☒	
4a.	If the answer to question 4 is 'Yes', is a Clean Water Act Section 404 permit authorization required?	☐	☐	☒ N/A
4b.	If the answer to question 3 or 4 is 'Yes', is a Stream Protection Act 124SPA consultation required?	☐	☐	☒ N/A
5.	Are solid wastes, hazardous materials or petroleum products likely to be encountered? (For example, project occurs in or adjacent to Superfund sites, known spill areas, underground storage tanks, or abandoned mines.) (See http://nris.mt.gov/deq/remsitequery/portal.aspx)	☐	☒	
6.	Is the proposed activity on and/or within approximately 1 mile of an Indian Reservation? If answer is 'No', go to question 7.	☐	☒	
6a.	Are any Tribal water permits required?	☐	☐	☒ N/A
7.	Is the proposed project in a "Class I Air Shed" or a nonattainment area? (See http://deq.mt.gov/AirQuality/Planning/AirNonattainment.mcpx) (Class I Air Sheds include the Northern Cheyenne, Flathead, and Fort Peck 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)	☒	☐	The end of the project from approximate RP 90.66 to 90.90 is in a Montana State PM-10 Nonattainment Area and Carbon Monoxide Nonattainment Area.

Checklist prepared by:

William M. Squires	Project Design Engineer	11/25/2014
Applicant	Title	Date

Approved by:

	ENVIRONMENTAL ENGINEERING SECTION SUPERVISOR	12/16/14
Environmental Services	Title	Click here to enter a date. Date

Environmental Services Bureau Form Revised: May 2011

(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: Distribution

From: Paul Ferry, P.E. **PF**
Highways Engineer

Date: November 25, 2014

Subject: **NH 7-2(58)83**
Lolo – Missoula
UPN 8732000
Work Type – 183 – Resurfacing – Microsurfacing

Attached is the Preliminary Field Review Report/Scope of Work Report which was approved on **11/26/14**. We request that those on the distribution review this report and submit your concurrence within two weeks of the approval date.

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

I recommend approval:
Approved _____ Date _____

Distribution:
Ed Toavs, District Administrator
Kent Barnes, Bridge Engineer
Paul Ferry, Highways Engineer
Roy Peterson, Traffic and Safety Engineer
Robert Stapley, Right-of-Way Bureau Chief
Tom Martin, Environmental Services Bureau Chief
Lynn Zanto, Rail, Transit, & Planning Division Administrator
Jake Goettle, Construction Engineering Services Bureau
Matt Strizich, Materials Engineer

cc:
Bill Squires, Project Design Manager, Missoula District
Dawn Stratton, Fiscal Programming Section
Damian Krings, Road Design Engineer

e-copies:
Jim Walther, Engineering, Preconstruction Engineer
Lesly Tribelhorn, Highways Design Engineer
Mark Goodman, Hydraulics Engineer
KC Yahvah, District Hydraulics Engineer
Bill Semmens, Env. Resources Section Supervisor
Joe Weigand, District Biologist
Susan Kilcrease, District Project Development Engineer
Danielle Bolan, Traffic Operations Engineer
Ivan Ulberg, Traffic Design Engineer
Gabe Priebe, District Traffic Project Engineer
Kraig McLeod, Safety Engineer
Chris Hardan, Bridge Area Engineer, Missoula District
Engineering Cost Analyst
John Pirre, Engineering Information Services
Paul Grant, Public Involvement Officer
Sue Sillick, Research Section Supervisor
Suzy Price, Contract Plans Bureau Chief
Alyce Fisher, Fiscal Programming Section
Bob Vosen, District Construction Engineer
Dean Jones, Asst. District Construction Engineer
Ray Sacks, Construction Bureau
Matt Maze, ADA Coordinator
Duane Williams, Motor Carrier Services Division
Jake Goettle, Construction Bureau – VA Engineer
Shane Stack, District Preconstruction
Ben Nunnallee, District Projects Engineer
Mike Dodge, District Materials Lab
Steve Felix, Dist. Maintenance Chief (Missoula)
Maureen Walsh, District Right of Way Supervisor
Phillip Inman, Utilities Engineering Manager
David Hoerning, Lands Section Supervisor
Greg Pizzini, Acquisition Section Supervisor
Joe Zody, R/W Access Management Section Manager
Matt Strizich, Materials Engineer
Jim Davies, Pavement Analysis Engineer
Jeff Jackson, Geotechnical Engineer
Bret Boundy, District Geotechnical Manager
Bryce Larsen, Supervisor, Photogrammetry & Survey
Paul Johnson, Project Analysis Bureau
Jean Riley, Planner
Angela Zanin, Bicycle/Pedestrian Coordinator
Glen Cameron, District Traffic Engineer (Missoula)
Patricia Hogan, District Utility Engineering (Missoula)
Suzan Foley, R/W Design Supervisor
Ralph Jones, Photogrammetry-Survey

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

Memorandum

To: Paul Ferry, P.E.
Highways Engineer

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

Date: November 25, 2014

Subject: **NH 7-2(58)83**
Lolo – Missoula
UPN 8732000
Work Type – 183 – Resurfacing – Microsurfacing

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

Approved **Paul Ferry** Date **11/26/14**
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

Introduction

An on-site preliminary field review was conducted on August 19, 2014, with the following people in attendance:

William Squires, PE, Missoula Area Engineer, Road Design – Helena
Joshua Dold, Design Supervisor, Missoula District – Helena
Darin Reynolds, Pavement Analysis – Helena
Ben Nunnallee, PE Missoula District Projects Engineer
Donny Pfeifer, Missoula District Design Supervisor

Proposed Scope of Work

The proposed project has been nominated to provide crack sealing and microsurfacing (including scratch course) to preserve the asphalt pavement and to extend the service life of the roadway. A bridge deck seal, concrete barrier rail replacement, minor ADA upgrades, and replacement of pavement markings will also be included. The Missoula crew in Helena Road Design will design the project.

Purpose and Need

The purpose of this project is to prolong and preserve the existing pavement to extend the service life of the existing asphalt surfacing.

Project Location and Limits

The project is located in Missoula County on Route N-7 (U.S. 93), a rural principal arterial non-Interstate. The project begins at Reference Post (RP) 83.24± (about 0.14 miles south of the Hwy 93/Hwy 12 intersection in Lolo) and extends northerly 7.59± miles to RP 90.87± (the beginning of the Portland cement concrete section about 300 feet south of the Hwy 93/ Reserve Street intersection in Missoula). The project is within the city limits from RP 90.435 to 90.87±.

This segment of road is located in Township 12 N, Range 20 W Sections 35, 26, 27, 22, 15, 11, 10, 2 and 1 and Township 13 N, Range 20 W Section 31.

The project begins at English Station 449+88.30, on as-built plans F-215(16), which equates to the end station 159+55.84 (Met.) of reconstruction Project NH 7-2(25)78 F, Lolo- South, constructed in 2001, and to end Sta. 523+38.56 of NH 7-2(53)81, Lolo- South, UPN 7307000, a pavement preservation constructed in 2011.

The project ends at English Station 849+11.94 on as-built plans U-215(20).

A map is attached at the end of this report.

Work Zone Safety and Mobility

At this time, Level 2 construction zone impacts are anticipated for this project as defined in the Work Zone Safety and Mobility (WZSM) guidance. This project is on a Level 1 corridor but is not a Significant Project. Due to the mobile construction zone and the short construction duration, we expect a small degree of public impact, and propose to consider this project as a Level 2 project. The plans package will include a Transportation Management Plan (TMP) consisting mainly of a Traffic Control Plan (TCP). A limited Public Information (PI) component to address public notification will also be included in the plan package. These issues are discussed in more detail under the Traffic Control and Public Involvement sections.

Physical Characteristics

The terrain within the project varies from level to rolling. The Bitterroot River parallels the roadway to the east until it is crosses under the Buckhouse Bridge at RP 90.12±. The adjacent land use is heavily urbanized with fairly dense residential and commercial development along the southerly 0.8 miles and the northerly 0.5 miles. These two segments are mostly curb-and-gutter, with and without sidewalk. The 6.3miles between are rural in nature, with scattered agricultural, commercial and residential development.

The cut and fill slopes are 5:1 and 6:1 throughout most of the project and 1.5:1 through sections between RP 85.9± to 87.7±.

This section of US 93 was originally constructed under two projects:

F-215(16), Lolo – Missoula, RP 82.7± to 90.2± (449+88.3 to 817+73.9), 1969

The initial surfacing included 0.25' of plant mix surfacing, 0.15' crushed top surfacing and 1.25' of crushed base course.

The paved width is 84 feet from 449+88 to 585+00 with two 8-ft. shoulders, two 12-ft. outside travel lanes, two 14-ft. inside travel lanes, and a 16-ft. center turn lane. There is curb and gutter on both sides from 450+88 to 462+50 ± and intermittently to 490+00 ±. There is a raised median from station 454+00 ± to 480+00 ±.

The width transitions from 84 to 68 feet between 585+00 and 589+50. The 68-ft top extends from 589+50 to 683+75, and provides two 6-ft. shoulders, four 12-ft, travel lanes and an 8-ft. median straddled by concrete barrier rail from RP 85.7± to 86.9±, and from RP 87.1± to 87.5±.

The width transitions to 84 feet between 683+75 and 685+44.5. This 84-ft. rural section extends to 817+74±, with two 8-ft. shoulders, two 12-ft. outside travel lanes, two 14-ft. inside travel lanes and one 16-ft. median.

U 215(20), Florence - Missoula RP 90.2± to 90.92± (817+73.9 to 849+11.94), 1971

The initial surfacing included 0.35' of plant mix surfacing, 0.20' crushed top surfacing and 1.20' of crushed base course. The paved width is 89' between RP 90.2± and 90.92±.

Two other projects added southbound right-turn lanes at two locations:

STPHS-RTF 7-2(18)87, Lolo - Missoula Median Opening, RP 86.9± – 87.4± ⇒ 1993
STPHS 7-2(26)89 Blue Mountain Road, RP 88.7± to 89.0± ⇒ 1998

In 2008, the roadway was overlaid under **NH 7-2(49)83, Lolo-Missoula, CN 5984000**. The section from RP 83.2± to 90.9± received a 0.15' overlay, leveling course, 0.07' isolation lift and seal and cover. The travel lanes were milled/filled 0.375 feet deep and 26.5 feet wide in the Lolo sections with curb and gutter and raised medians.

A 0.20-ft mill/fill operation was used at the southern end of the Missoula urban area. The travel lanes and center median were milled and filled, but the shoulders were chip sealed only, except for the final 252 feet of the project, where the mill/fill extended curb to curb. Guardrail, a 0.3-mile segment of median rumble strips, curb and gutter, and pavement markings were also installed.

Other improvement projects constructed since 1987 are listed below:

PROJECT NAME	PROJECT ID	LETTING	UPN
BITTERROOT RIV. BRIDGE MISSOULA COUNTY	NH 7-2(22)90	23-JUN-94	1788
FLASHERS - N OF LOLO	STPHS 7-2(34)86	26-APR-01	3353
LOLO - RIDGEWAY & GLACIER DRIVE	STPHS 7-2(24)84	28-MAY-98	2156
LOLO CREEK BRIDGE - LOLO - MISSOULA COUNTY	RTF 7-2(21)83	28-JAN-93	2253
MISSOULA DISTRICT-PL. MIX OVERLAY,SEAL&COVER MISSOULA & RAV	RTF 7-2(12)90	22-MAR-90	1665
SOUTH OF MISSOULA MISSOULA COUNTY	STPHS 7-2(17)89	25-MAR-93	1913
U.S. 93-LOLO MISSOULA COUNTY	STPHS 7-2(16)83	25-MAR-93	1912
U.S. 93/U.S. 12 SIGNAL-LOLO	STPHS-NH 7-2(32)83	22-JUL-99	3354
US 93 & TYLER WAY - LOLO	NH 7-2(51)83	26-MAY-11	7073000
LOLO-MISSOULA MISSOULA COUNTY	RTF 7-2(11)83	26-JAN-89	0072

Based on current design standards, seven of the eleven horizontal curves meet the minimum radius of 1,810' for a design speed of 70 mph. However, none of the horizontal curves have the required superelevation. Also, the simple curve at PI Station 681+65.3 should be a spiral curve.

The following table summarizes the horizontal curve data:

PI Station	Curve Type	Radius (ft)	Super (%)	Meets Min. Radius	Meets Super
474+47.1	Simple	11,460.0	NC	X	
508+32.6	Spiral	1,273.0	8.0		
521+96.3	Spiral	2,864.8	5.0	X	
599+30.6	Spiral	1,145.9	7.0		
644+58.6	Spiral	1,909.9	5.0	X	
664+80.0	Spiral	1,909.9	5.0	X	
681+65.3	Simple	2,865.0	4.0	X	
692+89.3	Simple	5,730.0	2.0	X	
715+28.9	Spiral	1,637.0	6.0		
724+42.2	Spiral	1,637.0	6.0		
752+05.9	Spiral	1,909.9	5.0	X	

Thirteen of the existing seventeen vertical curves meet the minimum stopping sight distance (SSD) standard. The following table summarizes the vertical curve data:

PI Station	Curve Type	G_1 (%)	G_2 (%)	Length (ft)	V (mph)
474+00.0	Crest	-0.328	-0.759	800	70
488+00.0	Sag	-0.759	-0.716	600	70
510+00.0	Crest	-0.716	-1.3057	400	70
520+07.0	Sag	-1.3057	-0.070	400	70
587+75.0	Sag	-0.070	4.117	1,600	70
607+81.7	Crest	4.117	-1.196	2,000	70
659+72.8	Sag	-1.196	1.493	1,600	70
683+50.0	Crest	1.493	0.590	200	70
693+00.0	Crest	0.590	-3.823	1,000	67
709+00.0	Sag	-3.823	2.069	800	60
722+00.0	Crest	2.069	-3.507	1,000	63
733+10.0	Sag	-3.507	1.090	1,000	70
745+38.8	Crest	1.090	-1.176	1,000	70
754+24.6	Sag	-1.176	-0.086	400	70
803+18.0	Sag	-0.086	1.010	1,000	70
832+00.0	Crest	0.018	-0.136	800	70
843+00.0	Sag	-0.136	0.359	300	70

Current typical sections and surfacing information is provided below:

As-Built Station		Top Width
From	To	(ft)
449+88.30	589+50.00	84.0
589+50.00	685+44.50	68.0
685+44.50	744+75.10	84.0
744+75.10	753+24.80	94.0
753+24.80	819+07.00	84.0
819+07.00	820+16.80	86.2
820+16.80	849+11.94	88.0

Reference Post		Top Surfacing	Base Course
From	To	Depth (ft)	Depth (ft)
83.20	83.43	0.39	1.30
83.43	90.44	0.68	1.42
90.44	90.90	0.68	1.40

- PvMS Index Numbers & Recommended Treatment for 2014:

Section	Ride	Rut	ACI	MCI	Construction	Maintenance
RP 83.2 to RP 90.9	84.2	66.7	99.7	99.7	C AC Crack Seal	M AC Crack Seal

- There is one bridge within the project limits:

Bridge Number	Location	Reference Post	Feature Crossed	Const. Year	Suff. Rating	Width x Length (ft x ft)
P00007090+01161	MISSOULA	90.12	BITTERROOT RIVER	1968	64.0	86 x 347

Traffic Data

The Traffic Data Collection & Analysis Section provided the following traffic data:

RP 83.2 to RP 90.9

2014 ADT =	23,740	Present
2017 ADT =	25,640	Letting Year
2037 ADT =	42,850	Design Year
DHV =	4,500	
T = 4.6%		
EAL = 235		
AGR = 2.6%		

Crash Analysis

A crash analysis is not required for this microsurfacing project.

Major Design Features

This project will be developed in accordance with the latest Guidelines for Pavement Preservation Projects. The plans will be developed in English units. The project is considered to be preventative maintenance by means of scheduled treatment.

a. **Design Speed**
The design speed limit is 70 mph for rural principal arterial in level terrain and the posted speed limit is 35 and 45 mph inside Lolo and Missoula city limits, outside of city limits, 65 mph for cars and 60/55 mph for trucks at daytime/night respectively. Design speed is not an applicable design criterion for preventative maintenance type projects.

b. **Horizontal Alignment**.
The horizontal alignment will be perpetuated with this project.

c. **Vertical Alignment**.
The vertical alignment will be perpetuated with this project.

d. **Typical Sections and Surfacing**.
The proposed typical section and surfacing is as follows:

The contract will include crack sealing to be completed before microsurfacing operations begin. We will strive to specify a crack sealant that cures within about fifteen days.

SS-1 will be placed the full width of the pavement. The SS-1 will function as tack oil where it is covered by microsurfacing (scratch or surface course). The SS-1 will function as a fog seal on pavement surfaces that are not covered with microsurfacing. SS-1 will be a bid item that is measured and paid for at the unit bid price. The application rate for undiluted SS-1 will be 0.025 gal/yd^2 (tack oil) and 0.05 gal/yd^2 (fog seal).

A scratch microsurfacing course will be placed from shoulder stripe to shoulder stripe to fill ruts, and will also be placed on turn lanes/paved medians between travel lanes and on turnouts/approaches. A quantity of tack oil will be calculated for application to the scratch course, and included in the plans. The EPM will determine during construction if the tack oil is needed on the scratch course.

The microsurfacing surface course placed atop the scratch course will be wide enough to cover all travel lanes and paved medians, and will extend to two feet beyond the shoulder stripes along rural sections. The surface course will extend an additional six to eight feet to the gutter pan along the curb-and-gutter sections in Lolo and the south end of Missoula.

The application rate (including asphalt emulsion) will be approximately 29.7 lbs./yd^2 for the scratch course and 31.2 lbs./yd^2 for the surface course.

A ride improvement special provision will be included to ensure the proposed work will have a ride index equal to or smoother than existing.

Rumble strips milled into the microsurfacing will be fog sealed. The fog seal will be incidental to the rumble strip installation.

A detail that does not require milling the existing pavement will be developed to address the microsurfacing transition at bridge ends and PTW connections.

There are no proposed changes to the roadway widths.

Under project **Missoula 2 Lolo Trail**, a shared use path will be constructed adjacent and parallel to U.S. Hwy 93. This trail may impact the roadway of the northbound and southbound lanes throughout the project limits. The top width of the roadway for the northbound and southbound lanes may be reduced in width from the trail impacting the highway. The trail begins adjacent to the southbound lane of U.S. Hwy 93 north of Lolo Creek Bridge, crosses over to outside the northbound lane and crosses back to outside the southbound lane, ending at the intersection of Reserve Street and U.S. Hwy 93. This project will likely be constructed summer of 2015.

e. **Geotechnical Considerations**.
No Geotechnical considerations are anticipated on this project.

f. **Hydraulics**.
No Hydraulic considerations are anticipated on this project.

g. **Bridges.**
The bridges on this project have been inspected and the following work will be performed:

Bridge ID	Location	Work Required
P00007090+01161	MISSOULA	Bridge Deck Crack Seal

h. **Traffic.**
The existing epoxy pavement markings will be scarified prior to microsurfacing placement, as recommended by Surfacing. The existing pavement marking layout will be used to re-stripe the roadway. Road Design will compute the quantities for temporary pavement markings. Traffic Engineering will provide the quantities, details, and specifications for interim paint and final epoxy, as well as epoxy for curbs in the urban sections. These items will be included in the road plans package.

We do not propose to upgrade signing and delineation with this project.

i. **Pedestrian/Bicycle/ADA**.
There are no existing rumble strips in place on the shoulders, but we propose to place intermittent rumble strips on the outside shoulders, exclusive of the Lolo urbanized area and the urbanized area at the south end of Missoula. We propose a rumble strip with a lateral width of six inches, adjacent to the shoulder stripe. Although much of the shoulder width is adequate to accommodate the standard rumble strip design (12 inch width, placed six inches from shoulder stripe), there are sections of narrower shoulder adjacent to guardrail where the narrower rumble strip would be desirable. A consistent rumble strip design throughout the project will simplify design and construction.

There are continuous rumble strips along the left and right sides of the closed flush median that extends for about 0.3 miles south of the beginning of the concrete barrier rail (RP 85.88). We propose to extend the continuous rumble strips to include the segments

adjacent to the concrete barrier rail (RP 85.88 to 87.02 and RP 87.22 to 87.68).

We expect the proposed Missoula 2 Lolo Trail will provide an accessible pedestrian route along Highway 93 through Lolo and along the urbanized segment at the south end of Missoula. Therefore, we propose to limit ADA work to upgrading the existing crosswalks in Lolo and Missoula that will not be fully upgraded under the Missoula to Lolo Trail project.

A review of the preliminary plans for the trail project indicates upgrades may be needed at the northwest, southwest, and southeast quadrants at the signalized intersection of Highway 93 with Ridgeway Drive (west) and Glacier Drive (east) at RP 83.96. There is also a cross-walk just north of the unsignalized Lewis and Clark Drive intersection (RP 83.5) that may require an upgraded ramp on the west side.

In the Missoula area, it appears ADA upgrades may be required to the ramps on the northwest, northeast, and southeast quadrants of the signalized intersection of Highway 93 and Old U.S. 93 (west) and Miller Creek Road (east) at RP 90.36.

It is anticipated that no work will be performed on the shared use path of the Missoula 2 Lolo Trail project that will likely be constructed summer of 2015.

j. **Miscellaneous Features**.
The existing two-loop concrete barrier rail (CBR) in the flush median (RP 85.88 to 87.02 and RP 87.22 to 87.68) and four impact attenuators will have to be moved to do the microsurfacing work. The CBR will have to be replaced with new approved three-loop CBR.

We propose to upgrade from the standard 32" CBR to the 46" tall CBR to provide headlight screening on this corridor that has very high traffic volumes during the morning and evening commutes. If small animal crossing is a concern, we could specify the 8" diameter openings be constructed in the bottom of designated CBR sections.

The four impact attenuators can probably be reused, depending on their condition.

Guardrail end treatments were updated on project Lolo-Missoula [5984000] in 2008, so no work on the guardrail adjacent to outside shoulders should be required.

k. **Context Sensitive Design Issues**.
The intent of this project is to increase the service life of the pavement and do minor repairs and upgrades as needed to reduce maintenance costs and improve safety. The majority of the work will occur on the paved roadway surface. Therefore, no significant changes will occur to the context of the area the roadway passes through once construction is completed.

Other Projects

Another resurfacing project, **N of Stevi Wye – Florence, NH 7-1(148)63, CN 8773000,** is located in the vicinity of this project from reference post 68.3 to 74.2 on N-7. This project will not be tied with Lolo – Missoula.

Two tied resurfacing projects, **Charlos Heights** and **Hamilton – South** will be designed in the

vicinity of the project on Route N-7 from RP 38.7 to 43.7 and RP 43.7 to 46.0 respectively. These projects will be let June 11, 2015 and will not be tied with Lolo – Missoula.
The Lolo 2 Missoula Trail project will be constructed before [8732000] is constructed.

The trail project may impact the shoulders of the northbound and southbound lanes along segments of Highway 93. The plans for [8732000] will be revised as needed to reflect any changes resulting from the trail project, which will most likely be constructed summer of 2015.

Location Hydraulics Study Report
There will be no LHSR for this project as it is a microsurfacing project.

Design Exceptions
The design exception process does not apply to pavement preservation projects. No design exceptions will be required for this project.

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

Access Control
This section of highway is a limited access facility. No changes are proposed.

Utilities/Railroads
There are overhead and underground utilities, however due to the nature of this project, no utility involvement is expected.

It appears that construction activities for the ADA work along the east side of the Highway 93/Miller Creek Road intersection could be within 50 feet of the railroad tracks.

Maintenance Items
There are no maintenance items to be included with this project.

Intelligent Transportation Systems (ITS) Features
There will be no ITS solutions to be considered as part of the design process.

Survey
It appears an engineering survey will be needed at two locations in Lolo and one location in Missoula to do the design work for the ADA upgrades. A cadastral survey is probably not needed, but that will have to be verified.

Public Involvement
A limited PI component will be included in the project outlining strategies for public notification. This project will have level A public involvement, which will include a news release explaining the project and including a department point of contact.

Environmental Considerations
No significant environmental impacts or issues were identified. This project meets the criteria for a statewide programmatic categorical exclusion under the pavement preservation agreement with FHWA. We are submitting a pavement preservation checklist for this project.
As proposed, no CWA 404 permit or SPA 124 notifications are anticipated for this project.

The contract for the last pavement preservation project [5984000] in 2008 included restrictions on contractor operations within one mile of an active eagle nest. A nest was identified as being in Section 23 of T12N R20W.

Energy Savings/Eco-Friendly Considerations
At this time, no savings or considerations have been identified.

Experimental Features
At this time, no experimental features have been identified.

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. No detours are anticipated. A minimum of one lane will remain open for both directions of traffic at all times during construction. Other stipulations that will be considered include the following:

> Perform microsurfacing operations on the roadway between the hours of 6:00 P.M. and 6:00 A.M. Include in this time period the installation and removal of traffic control devices.
>
> Maintain two-way traffic throughout construction except for the following. Maintain two travel lanes northbound between the hours of 6:00 A.M. and 9:00 A.M. Monday through Friday and two travel lanes southbound between the hours of 3:30 P.M. and 6:30 P.M. Monday through Friday.

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 crew from the Helena Road Design Section will design this project. The project design manager will be William Squires. This is not a Project of Division Interest for FHWA.

Preliminary Construction Cost Estimate

The nomination cost estimate (without IDC) that was originally programmed for this project was $1,068,000 (CN = $971,000 and CE = $97,000). The price increase shown below is due to the project scope changing from seal and cover to microsurfacing, and the inclusion of concrete barrier rail replacement. Here is the updated cost estimate:

PFR Estimate	Estimated Cost	Inflation (INF) (from PPMS)	TOTAL Costs w/INF + IDC (from PPMS)
Road Work	$2,316,000		
Bridge Work	$37,000		
Traffic Control (incl. temp barriers)	$451,000		
Subtotal	**$2,804,000**		
Mobilization (10%)	$280,000		
Subtotal	**$3,084,000**		
Contingencies (8%)	$247,000		
Total CN	**$3,331,000**	**$ 33,147**	**$ 3,671,294**
CE (10%)	**$333,000**	**$ 3,314**	**$ 367,019**
TOTAL CN + CE	**$3,664,000**	**$ 36,461**	**$ 4,038,313**

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 9.13% as of FY 2015.

Preliminary Engineering

It is not anticipated the project will require a significant addition or reduction to the nominated PE amount.

Project and Risk Management

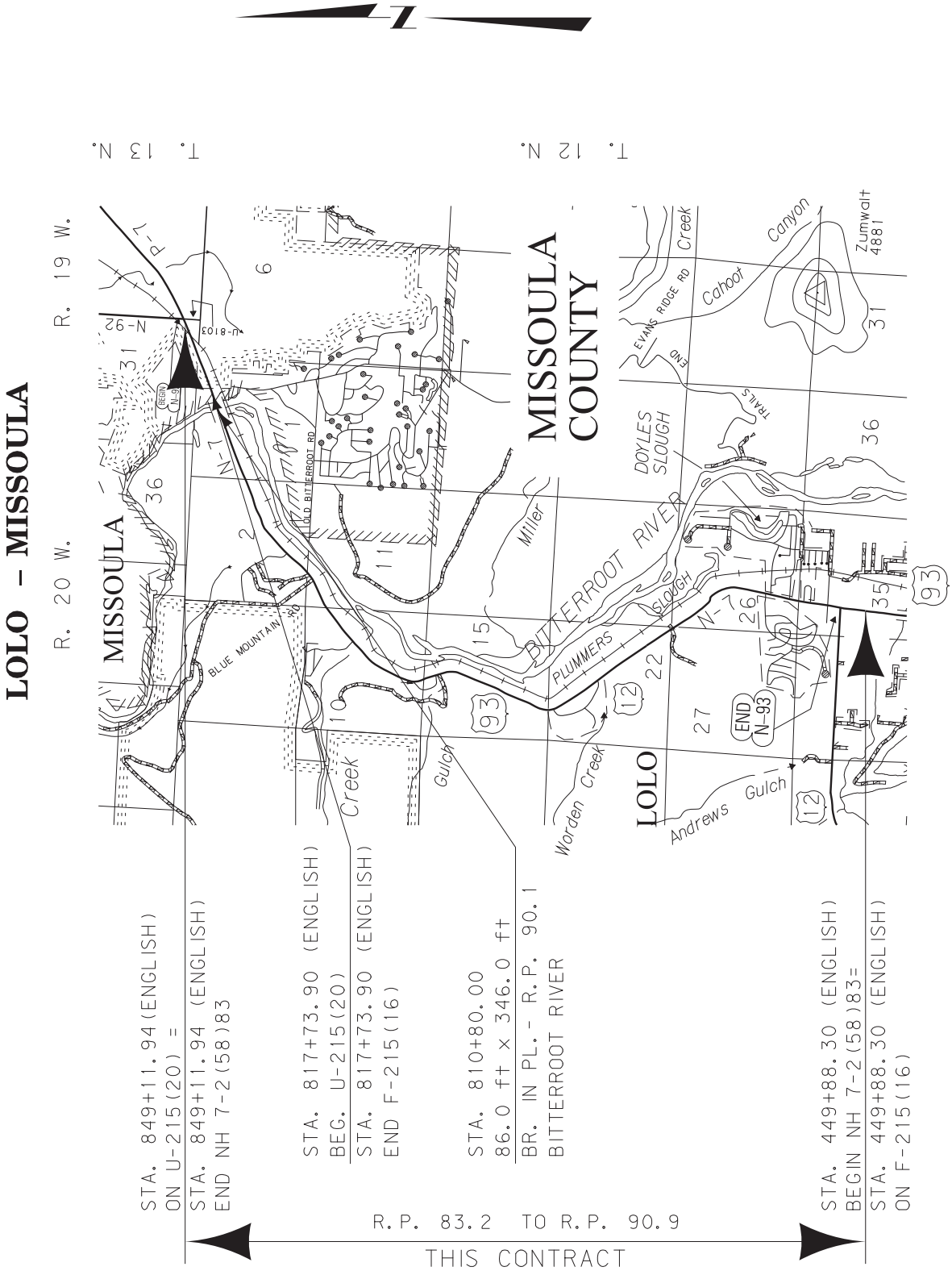
There are no current risks to the project cost and schedule. This is a relatively simple design project and there is no active management strategy.

Ready Date

The current scheduled Ready Date in OPX2 is shown as March 1, 2015, but will be subject to change with the new let date. The scheduled let date is January 25, 2016.

Site Map

The project site map is attached.


LOLO – MISSOULA
R. 20 W.
R. 19 W.
T. 13 N.
T. 12 N.
MISSOULA
MISSOULA COUNTY
LOLO
BLUE MOUNTAIN RD
OLD BITTERROOT RD
BITTERROOT RIVER
PLUMMERS SLOUGH
DOYLES SLOUGH
Miller Creek
Worden Creek
Andrews Gulch
Cahoot Canyon
EVANS RIDGE RD
TRAILS END
Zumwalt 4881
N-92
N-7
N-93
U-8103
F-215(16)
BEGIN N-93
END N-93
STA. 849+11.94 (ENGLISH)
ON U-215(20) =
STA. 849+11.94 (ENGLISH)
END NH 7-2(58)83
STA. 817+73.90 (ENGLISH)
BEG. U-215(20)
STA. 817+73.90 (ENGLISH)
END F-215(16)
STA. 810+80.00
86.0 ft x 346.0 ft
BR. IN PL. - R.P. 90.1
BITTERROOT RIVER
STA. 449+88.30 (ENGLISH)
BEGIN NH 7-2(58)83=
STA. 449+88.30 (ENGLISH)
ON F-215(16)
R.P. 83.2 TO R.P. 90.9
THIS CONTRACT