



Montana Department of Transportation

2701 Prospect Avenue
PO Box 201001
Helena MT 59620-1001

Michael T. Tooley, Director
Steve Bullock, Governor

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ENVIRONMENTAL

August 22, 2013

Kevin L. McLaury
Division Administrator
Federal Highway Administration
585 Shepard Way
Helena, MT 59601-9785

MASTER FILE COPY

Attention: Jeff Patten

Subject: Programmatic Categorical Exclusion (PCE) Concurrence Request
BH 66-2(9)17
Little Peoples Creek/MT11-1
CN: 7977001

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 Preliminary Field Review Report, dated July 12, 2013, 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).

Table with 4 columns: YES, NO, N/A, UNK. Contains 3 main rows and 1 sub-row (A) regarding project impact, unusual circumstances, and right-of-way requirements.

	<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 checked="" type="checkbox"/>	<input 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 1965 <i>National Land &amp; Water Conservation Fund Act</i> (16 USC 460L, <i>et seq.</i> ) on or adjacent to 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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"). <b>Little Peoples Creek and its adjacent wetlands.</b>	<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. <b>Unavoidable wetland impacts are anticipated.</b>	<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. <b>The NPDES special provision will be included in the contract bid package.</b>	<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> ). <b>No impacts to farmland protected by the Farmland Protection Policy Act are anticipated.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/> | <input checked="" 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.

Eric Thunstrom, Date: 8/22/13  
Eric Thunstrom  
Great Falls District Project Development Engineer  
MDT Environmental Services Bureau

Concur Heidy Bruner, Date: 8/23/13  
Heidy Bruner, P.E.  
Engineering Section Supervisor  
MDT Environmental Services Bureau

Concur Jeffrey A. Patter, Date: 9/3/13  
Federal Highway Administration

Attachments: Preliminary Field Review Report, Project location map

electronic copies without attachment (unless otherwise noted):

Dave Hand	Great Falls District Administrator
Steve Prinzing, P.E.	Great Falls District Preconstruction Engineer
Tom Martin, P.E.	Environmental Services Bureau Chief
Heidy 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
Robert Stapley	Right-of-Way Bureau Chief

Kevin L. McLaury  
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Stephanie Brandenberger, P.E.	Bridge Area Engineer-Great Falls District
Suzy Price	Contract Plans Bureau Chief
Tim Tilton	Contract Section Supervisor
Lisa Hurley	Fiscal Programming Section Supervisor
Tom Erving	Fiscal Programming Section
Tim Holley	Great Falls District Environmental Engineering Specialist
Eric Thunstrom	Environmental Services Bureau Project Development Engineer
Montana Legislative Branch Environmental Quality Council (EQC)	(with attachment)
copies with attachment	
File	Environmental Services Bureau

HSB:ejt: S:\PROJECTS\GREAT-FALLS\7000-7999\7977\EDOC\7977001\ENCED001.doc



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

**Memorandum**

To: Kent Barnes, PE  
 Bridge Engineer

From: Stephanie Brandenberger, PE *SB*  
 Bridge Area Engineer – Great Falls District

Date: July 12, 2013

Subject: BH 66-2(9)17  
 Little Peoples Crk/MT11-1  
 UPN 7977001  
 Work Type 221- Bridge Replacement with no added capacity

Please approve the attached Preliminary Field Review Report.

*K. Barnes, 7/12/13*

Approved \_\_\_\_\_ Date \_\_\_\_\_  
 Kent Barnes, Bridge Engineer

We are requesting comments from those on the distribution list. We will assume their concurrence if we receive no comments within **two weeks** of the approval date.

**Distribution:**

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

**cc:**

- |  |  |
|--|--|
| Robert Snyder, Project Design Man., Great Falls District | Dawn Stratton, Fiscal Programming Section            |
| Blaine County Commissioners                              | Tracy King, President, Ft. Belknap Community Council |
| P.O. Box 278   | RR 1, Box 66   |
| Chinook, MT 59523-0278                                   | Harlem, MT 59526-9705                                |
| Damian Krings, Road Design Engineer                      |  |

**e-copies:**

- |   |   |
|---|---|
| Jim Walther, Engineering, Preconstruction Engineer      | Jake Goettle, Construction Bureau – VA Engineer               |
| Lesly Tribelhorn, Highways Design Engineer              | Steve Prinzing, District Preconstruction Engineer             |
| Mark Goodman, Hydraulics Engineer                       | Christie McOmber, District Projects Engineer                  |
| Kurt Marcoux, District Hydraulics Engineer              | Stan Kuntz, G.F. District Materials Lab                       |
| Bill Semmens, Env. Resources Section Supervisor         | Jerilee Weibel, District R/W Supervisor                       |
| Paul Sturm, District Biologist                          | Phillip Inman, Utilities Engineering Manager                  |
| Eric Thunstrom, Project Development Engineer            | David Hoerning, R/W Engineering Manager                       |
| Danielle Bolan, Traffic Operations Engineer             | Greg Pizzini, Acquisition Manager                             |
| Ivan Ulberg, Traffic Design Engineer                    | Joe Zody, R/W Access Management Section Manager               |
| Gabe Priebe, District Traffic Project Engineer          | Matt Strizich, Materials Engineer                             |
| Kraig McLeod, Safety Engineer                           | Daniel Hill, Pavement Analysis Engineer                       |
| Stephanie Brandenberger, Bridge Area Eng, G.F. District | Lee Grosch, District Geotechnical Manager                     |
| Michael Grover, Engineering Cost Analyst                | Bryce Larsen, Supervisor, Photogrammetry & Survey             |
| Marty Beatty, Engineering Information Services          | Paul Johnson, Project Analysis Bureau                         |
| Paul Grant, Public Involvement Officer                  | Jean Riley, Planner   |
| Sue Sillick, Research Section Supervisor                | Dawn Stratton, Fiscal Programming Section                     |
| Alyce Fisher, Fiscal Programming Section                | Michael Murphy, Eng. Manager, Bridge Management System        |
| Mike Tooley, Tribal Coordination                        | Duane Williams, Motor Carrier Services Division Administrator |
| Doug Wilmot, G.F. District Construction Engineer        | Matt Ladenburg, Havre Maintenance Chief                       |
| James Combs, District Traffic Engineer                  | Brendan Scott, District Utility Agent                         |
| Linda Cline, District R/W Design                        |   |

## Preliminary Field Review Report

BH 66-2(9)17 Little Peoples Crk/MT11-1

Project Manager: S. Brandenberger

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### Introduction

This project is from the 2011 Flood Damage Risk Assessment. The project was initially scoped as bank stabilization with the intent to let through purchasing, but the bid prices were too high to award. Subsequently, a contract was signed with HKM which included site and channel survey, utility survey, and geotechnical investigation to produce conceptual plans for scour remediation.

The survey completed by HKM indicated that scour around the bridge piling was within approximately 8' of the pile tip elevations, which significantly decreases the load carrying capacity and lateral stability of the structures. HKM developed scour remediation plans that included placement of rip rap and gabion baskets to protect the vulnerable abutment and pier structures. Resource agencies expressed concern about the amount of fill to be placed within the channel and the long term impacts to hydraulic performance and health of the resource.

The stream conditions changed again during recent flooding and the abutment and roadway fill exhibited further instability. The decision was made to replace the structures rather than continue with the bank stabilization plans to ensure long term stability of the channel, bridges and roadway.

### Proposed Scope of Work

The proposed scope of work is to replace three structures crossing Little Peoples Creek on the Fort Belknap Indian Reservation on Primary 66. The project will include minor road work to tie into the bridge ends and guardrail. The objective is to replace the bridges on the existing alignment and grade using a bridge superstructure type that will not necessitate a grade raise. This is intended to minimize project limits, reduce or avoid right of way impacts, and reduce construction time.

### Purpose and Need

The purpose of the project is to provide a long term solution to the flood damage that has occurred to the bridges and roadway since 2011 by replacing the damaged structures and minimizing the potential for future scour damage and maintenance.

### Project Location and Limits

The project is located in Blaine County on Primary Route 66 with bridges at reference posts 16.6, 18.0 and 22.3, near Hays. All the bridges cross Little Peoples Creek on the Fort Belknap Indian Reservation. The project stationing will run south to north with the mileposts. Project limits will be determined as design progresses. All attempts will be made to limit the length of road reconstruction to the minimum possible.

### 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 impact is due to the potential for complete road closure at one location. The plans package will include a Transportation Management Plan (TMP) consisting mainly of a Traffic Control Plan (TCP). A limited Transportation Operations (TO) component and a limited Public Information (PI) component to address potential road closure and detours. These issues are discussed in more detail under the Traffic Control and Public Involvement sections.

### Physical Characteristics

- a. The road was built in 1959 under S-187(6) and improved in 2008 under STPP 66-2(7)16 (UPN 5570). The S-187 (6) as-built project shows that the existing surfacing consists of 1.0' of SBBC, 0.15' top course and 0.25' plant mix surfacing. The 2008 improvement project added a seal and cover and updated bridge rail. According to the roadlog, the surface consists of a 28' top with two 12' lanes and 2' shoulders. The total surfacing depth is shown as 0.45'.
- b. The PTW traverses level terrain and is used primarily for farm and rangeland.
- c. The existing vertical and horizontal alignments appear to meet the current design standards for the Geometric Design Standards for a Rural Minor Arterial with a design speed of 60 mph.
  - At RP 16.6 the PC of an 11,460.0' radius horizontal curve is located 23.5' from the existing north bridge end. According to the geometric design standards, this curve

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Project Manager: S. Brandenberger

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- requires a 2% super. The existing super will be confirmed from the survey. There is no vertical curve at the bridge, but a 400' vertical curve terminates approximately 223.0' before the south bridge end and transitions to a -0.68% slope over the existing bridge.
- At RP 18.0 the horizontal alignment exists on a tangent. There is no vertical curve at the bridge, but a 400' vertical curve terminates approx. 407.5' before the south bridge end and transitions to a -1.00% slope over the existing bridge.
  - At RP 22.3 the horizontal alignment exists on a tangent. The vertical alignment exists on a -1.979% slope and transitions to a 400.0' radius vertical curve located approx. 195.0' from the south bridge end, placing the VPI near the approx. center of the existing bridge and then transitions to a +0.675% slope approx. 167' north of the existing bridge end.
- d. The project is entirely within the Fort Belknap Indian Reservation.
- e. Mileposts run south to north beginning at US 191 and continuing through Hays to Fort Belknap.
- f. The bridges are as follows:

### RP 16.6 - Bridge over Little Peoples Creek 2 M NW Hays

NBI	P00066016+06331
Year Built	1959
Length, ft	26'
Width (Rail to Rail), ft	28'
Number of Spans	1
Approx. Span Lengths, ft	25'
Deck Type	Timber with plant mix surfacing
Beam Type	Timber stringers
Substructure Type	Timber

### RP 18.0 - Bridge over Little Peoples Creek 4 M NW Hays

NBI	P00066018+00191
Year Built	1959
Length, ft	26'
Width (Rail to Rail), ft	28'
Number of Spans	1
Approx. Span Lengths, ft	25'
Deck Type	Timber with plant mix surfacing
Beam Type	Timber stringers
Substructure Type	Timber

### RP 22.3 - Bridge over Little Peoples Creek 8 M NW Hays

NBI	P00066022+03911
Year Built	1959
Length, ft	39'
Width (Rail to Rail), ft	28'
Number of Spans	2
Approx. Span Lengths, ft	19'
Deck Type	Timber with plant mix surfacing
Beam Type	Timber stringers
Substructure Type	Timber

### Traffic Data

Traffic data was provided on July 2, 2013:

- a. current (2013) AADT, 1000;
- b. letting date (2014) AADT, 1020;
- c. design year (2034) AADT, 1580;
- d. DHV, 220;
- e. percent of trucks, 6.8%;
- f. expected daily 18,000 lb (8165 kg) Equivalent Single Axle Load (ESAL), 42;
- g. basis of projected traffic growth, 2.2%.

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Project Manager: S. Brandenberger

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### Crash Analysis

A crash analysis completed on July 5, 2013 indicated there were no crashes reported in the vicinity of the three bridges.

### Major Design Features

- a. **Design Speed.** This project will maintain the current design speed of 60 miles per hour based on the geometric design criteria for rural minor arterials. The current posted speed limit is 70 miles per hour.
- b. **Horizontal Alignment.** The intent of this project is to replace all bridges using a new bridge structure that will utilize the existing horizontal alignment. An approach at approximately RP 18.02 (left) will need to be relocated to allow adequate distance to install guardrail.

- c. **Vertical Alignment.** Unless a grade raise is necessary to meet requirements for the new bridge placement, the vertical alignment will not require any significant changes. The existing grades on the vertical alignment are as follows:

Bridge Site	Curve Length	Approach Slope	Departure Slope
RP 16.6	400' VC	-1.43 %	-0.68 %
RP 18.0	NA	-1.00 %	-1.00 %
RP 22.3	400' VC	-1.979 %	+0.675 %

- d. **Typical Sections and Surfacing.** The minimum roadway width for a minor arterial is 28ft. The existing typical sections based on as-built plans S-187(6) dated August 28, 1959 are as follows:

Br. Site	A/B STA to	STA	Length	Width
RP 16.6	978+00	1001+00	2,300ft	28ft
RP 18.0	1001+00	1077+00	7,600ft	28ft
RP 22.3	1251+00	1340+00	8,900ft	28ft

Existing widths will be confirmed from the survey. Typical surfacing recommendations will be needed from the Surfacing Design Section.

- e. **Geotechnical Considerations.** A substructure investigation is underway. A bridge foundation type using a piling system is anticipated and final recommendations will be provided by the Geotechnical Section.
- f. **Hydraulics.** Remedial measures were recommended for all three bridges as part of the 2011 Flood Damage Risk Assessment completed by DOWL HKM. The remedial measures were then updated to address constructability and stability concerns. Subsequently, MDT Bridge has made the decision to replace all three bridges with new bridges using rapid construction methods. As a term consultant for the MDT Hydraulics Section, DOWL HKM will complete the hydraulic analysis and bridge opening recommendation for the replacement structures. Preliminary bridges sizes including location, deck thickness, low chord elevation, bridge span lengths, and pier dimensions will be provided by MDT Bridge. DOWL HKM will provide hydraulic recommendations based on these preliminary bridge sizes.

As noted the 2011 Flood Damage Risk Assessment for the three bridges, there are no delineated floodplains at the three sites. No known irrigation facilities are located within the project limits.

- g. **Bridges.** The three existing structures will be replaced with new structures of approximately 90' length and matching the existing roadway width. All three structures will use the same basic length and width to facilitate project development and simplify construction. The bridge length was chosen to accommodate the maximum controlling hydraulic opening and minimum low beam elevation at the three sites. The superstructure is anticipated to consist of

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three - 30' spans of precast concrete tri-deck or modular steel beams with an asphalt topping. The bridge will provide a 28' rail to rail top width using a T101 bridge rail system to match the existing rail type.

- h. **Traffic.** New pavement markings and signing will be required.
- i. **Miscellaneous Features.** Existing guardrail will be removed and salvaged and new guardrail will be placed based on new bridge lengths and approach adjustments. Guardrail, mailbox turnouts and fencing requirements will be reassessed once survey is complete. An on-site detour may be necessary for construction of the bridge at RP 22.3 if the road cannot be closed for construction.
- j. **Context Sensitive Design Issues.** The design will proceed with the intent to minimize or eliminate right of way impacts on the Reservation and minimize project limits. This involves utilization of the existing conditions as much as possible including maintaining existing horizontal and vertical alignment; providing bridge width matching current roadway width; matching existing guardrail type; and maintaining low beam elevation. The plans will be developed to encourage accelerated construction and reduced construction time.

### Other Projects

There are no other projects in this area.

### Location Hydraulics Study Report

A Location Hydraulics Study was completed with the initial project scope. Hydraulic recommendations for the new project scope will be issued in design memorandum.

### Design Exceptions

A design exception may be considered for the superelevation at bridge site RP 16.6. The need for design exceptions will be further evaluated as the design progresses.

### Right of Way

The existing right-of-way width near the bridge at RP 16.6 is 60' on the east and 70' on the west. Right-of-way does jog in to 60' on the west side approximately 80' north of the bridge at RP 16.6. Near bridge at RP 18.0 the existing right-of-way width is 120' on the east and 60' on the west. Right-of-way near bridge at RP 22.3 is 80' on the east and 70' on the west. Right-of-way does jog out to 80' on the west side approximately 100' north of the bridge at RP 22.3.

Relocation of the approach near RP 18.0 may require new right of way. Construction permits may also be required for construction of an on-site detour at bridge near RP 22.3. The extent of right of way needs will be known after construction limits are determined as the design progresses.

### Access Control

There is no formal access control on this project and no changes will be made

### Utilities

Some utilities were located as part of the initial scour mitigation project. Other utilities may be present. The following observed utilities are described at each bridge site:

At RP 16.6 there is an underground telephone and overhead power parallel to the roadway on the east side, and an overhead power line that crosses the road south of the bridge. Impacts to these utilities are unknown at this time. Relocation may be necessary.

At RP 18.0 there is an underground telephone running parallel to the roadway on the east side, and one crossing the roadway to the north of the bridge. An overhead power line crosses the roadway to the south of the bridge. These utilities will be impacted by the bridge reconstruction and will likely require

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relocation prior to construction.

At RP 22.3 an underground telephone line runs parallel to the roadway on the west side. Impacts to this utility are unknown at this time. Relocation may be necessary.

### Maintenance Items

Depending upon project development and letting date, District maintenance forces may be responsible for removing migratory bird nests and preventing nesting prior to construction. This will be determined as the project progresses.

The structures will probably be exposed to another flood season prior to replacement. Observation and protective measures will continue as necessary to maintain the bridges and roadway prior to replacement.

### Intelligent Transportation Systems (ITS) Features

No ITS features have been identified as part of this project.

### Experimental Features

No experimental features will be used as part of this project.

### Survey

On June 27, 2013 a survey request was distributed in order to expedite project development. A DTM survey is recommended generally 400' from each bridge end and approximately 100' beyond the existing right of way for possible temporary detour locations. The survey will be in state plane coordinates, and the control survey developed by the consultant for the initial scour mitigation project will be tied to the new survey. Utilities, culverts, and a soil survey were included in the request as well as additional hydraulic survey information.

### Public Involvement

Level B public involvement is anticipated to be satisfactory for the project. This will include:

1. A news release explaining the project and including a department point of contact.
2. Personal contacts with local government, tribal officials and the U.S. Bureau of Indian Affairs.
3. Personal contacts with adjacent landowners explaining the project and design plans.
4. Construction notification and information during construction.

There is a possibility that the road will be closed while replacing the structure at RP 22.3. This will be determined as the project progresses. The "Public Advisory Program" standard special provision will be included in the plans package as necessary.

A (limited) PI component will be included in the project outlining strategies for public notification. Possible strategies appropriate for this project would be: radio and TV public service announcements, newspaper ads, and variable message boards.

### Environmental Considerations

A Programmatic Categorical Exclusion was approved for the original scour repair project. Due to scope of work changes, a revised NEPA/MEPA analysis is required. The anticipated level of environmental documentation for the proposed bridge replacements will be a Programmatic Categorical Exclusion in accordance with 23 CFR 771.117(d). To deliver this project for 2014 construction, the PCE should be completed as soon as possible.

A Clean Water Act Section 404 Permit was obtained for the original scour project. Due to scope of work changes that result in unavoidable impacts to wetlands and the Little Peoples Creek, considered 'waters of the US', a new Section 404 Permit from the US Army Corps of Engineers will be required. Environmental Services anticipates that the proposed project will qualify for a Nationwide 404 Permit. Bridge deck runoff will be controlled in a manner that will not allow runoff from discharging directly into the Little Peoples Creek to the greatest extent practicable. To deliver this project for 2014

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construction, bridge general layouts with rip rap plans and dimensions, and road plans with wetland impacts shown should be provided by October 2013.

Wetlands in the immediate vicinity of the bridge have been delineated for the scour remediation project. Additional wetland delineation will need to be completed for the revised scope of the project. As soon as the revised scope and the potential impact locations are known (approach relocations, amount of work along roadway at bridge approaches, etc.), the District Biologist will go to the site and perform the necessary wetland determination and delineation, as well as the delineation of the Ordinary High Water Mark of Little Peoples Creek in the project area. This field work needs to be completed prior to the end of September.

An SPA 124 was acquired for the original scour remediation work. With the change of scope, an SPA 124 will need to be acquired from the MT FWP.

Migratory Birds may nest on the structures and in vegetation adjacent to the structures that may be disturbed by the project. If the project will be awarded outside the nesting season (typical nesting season is April 15-August 15), the contractor will be responsible for assuring that nesting birds are not impacted by the proposed project. If the contract will be awarded within the nesting season, MDT must insure that any area that may be impacted by the project is clear of nesting birds. This may involve placing exclusionary netting the existing structures outside the nesting season to prevent birds from nesting on the structures prior to their removal and the removal of suitable trees outside the nesting season prior to the awarding of the contract. The District Biologist will work with the Project Development Team to make sure appropriate measures are taken so that the project is not delayed due to nesting birds and will insure that the appropriate special provisions are included in the Contract Bid Package. Some of this pre-project work may need to be done through a separate contract or with the assistance of Maintenance forces.

### **Energy Savings/Eco-Friendly Considerations**

Replacing structures using the existing grade and alignment will minimize environmental impacts. Bridge replacement plans will improve hydraulic function and long term health of the resource.

### **Traffic Control**

There is a possible detour route around the bridges at RP 16.6 and RP 18.0. The detour is approximately 5 miles and goes through the north-west side of the town of Hays. Traffic control option for the work at these two locations is to close the road and re-direct traffic onto the detour route. There is no reasonable detour around the bridge at RP 22.3. Options for traffic control at this site include closing the road; building the bridge in phases and leaving one lane available for through traffic; night only closures with limited road closure; or providing an on-site detour structure. The options chosen may be influenced by the available right of way and the estimated construction duration. All options will be considered for the TMP and addressed appropriately as the project develops.

### **Project Management**

Because the proposed revised project scope is bridge replacement, the management will shift from the District to the Bridge Bureau with Stephanie Brandenberger as project manager. The District design unit will develop road plans for the project. This project is not under full FHWA oversight.

### **Preliminary Cost Estimate**

The construction cost estimate programmed for scour mitigation was \$150,000 including IDC and INF, and \$15,000 for construction engineering. No IC or RW costs were anticipated with the scour remediation project. They will likely be required for the bridge replacement project.

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The estimated costs for the new project scope of bridge replacements are as follows:

	Estimated cost	Inflation (INF) (from PPMS)	TOTAL costs w/INF + IDC (from PPMS)
Road Work	475,000		
New Structure	1,280,000		
Remove Structure	45,000		
Detour	70,000		
Traffic Control	65,000		
<b>Subtotal</b>	<b>1,935,000</b>		
Mobilization (15%)	290,000		
<b>Subtotal</b>	<b>2,225,000</b>		
Contingencies (20%)	445,000		
<b>Total CN</b>	<b><u>\$2,670,000</u></b>	<b><u>\$ 47,201</u></b>	<b><u>\$ 2,965,009</u></b>
<b>CE (12%)</b>	<b><u>\$ 320,000</u></b>	<b><u>\$ 5,657</u></b>	<b><u>\$ 355,356</u></b>
<b>TOTAL CN+CE</b>	<b><u>\$2,990,000</u></b>	<b><u>\$52,858</u></b>	<b><u>\$ 3,320,365</u></b>

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 9.12% for FY 2014.

#### Ready Date

A new Ready Date will be determined once OPX2 re-overrides are complete. The delivery goal is December 2013 in order to be ready for 2014 construction.

Since project delivery must be accelerated, functional managers are requested to use only the activities necessary to keep the project flowing with the minimum duration necessary. Many activities may have been completed with the scour mitigation plans. Work flow can be modified to allow concurrent activities or to add/remove activities from the critical path as necessary. Contact Stephanie to discuss schedule modifications. OPX2 man-hour estimates input by FMs will be used to determine the additional funding to be requested from FHWA for the new project scope. Man-hours are expected to be higher for accelerated project development due to the number of staff necessary to complete the tasks in a short time.

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## Site Map

