MDT

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

Memorandum

To: Lisa Hurley
Fiscal Programming Section Supervisor

From: Heidy Bruner, P.E.
Environmental Engineering Section Supervisor

Date: March 2, 2016

Subject: Categorical Exclusion (c) (23)
NH 50-1(42)
RAINBOW POINT TURN LANE
Control Number: 8765000

Environmental Services Bureau has determined that this proposed project will not involve unusual circumstances as described under 23 CFR 771.117(b). As a result, the project qualifies as a Categorical Exclusion under the provisions of 23 CFR 771.117(c), part (23), which describes Federally-funded projects that receive less than $5,000,000 of Federal funds. This proposed action also qualifies as a Categorical Exclusion under the provisions of ARM 18.2.261 (Sections 75-1-103 and 75-1-201, M.C.A.).

The proposed project involves installing a left-turn lane into the Rainbow Point area located north of West Yellowstone. Additional right of way is anticipated. The total estimated cost of the project at this time including CN + CE w/INF + IDC = $ 1,240,461.

In accordance with the Federal Highway Administration's (FHWA) letter of March 29, 1999, please notify FHWA that the proposed action is being processed in accordance with 23 CFR 771.117(c).

e-copies:

Jeff Ebert - Butte District Administrator
Lesly Tribelhorn, P.E. - Highways Engineer
Robert Stapley - Right-of-Way Bureau Chief
Tom Martin - Environmental Services Bureau Chief
Heidy Bruner – Engineering Section Supervisor
Jennifer Nelson - Butte District Area Engineer
Therese Iwaniak – Butte Right of Way
Jeff Patten – FHWA
Barry Brosten – Environmental
Nicole Pallister - Fiscal Programming Section Supervisor

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

Memorandum

To: Paul Ferry, PE
Highways Engineer

From: Damian Krings, PE DMK
Road Design Engineer

Date: November 18, 2014

Subject: **NH 50-1(42)**
Rainbow Point Turn Lane
UPN 8765000
Work Type - 140 Reconstruction – Without Added Capacity

Please approve the attached Preliminary Field Review Report.

Approved Lesley Tribelhorn for Date 11/20/14
Paul Ferry
Highways 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:
Jeff Ebert, 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
Jon Swartz, Maintenance Division Administrator

cc:
Jennifer Nelson Project Design Manager, Butte District
Master file
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
Walt Ludlow, District Hydraulics Engineer
Bryce Larsen, Supervisor, Photogrammetry & Survey
Deborah Wambach, District Biologist
Barry Brosten, District Project Development Engineer
Danielle Bolan, Traffic Operations Engineer
Ivan Ulberg, Traffic Design Engineer
LeRoy Wosoba, District Traffic Project Engineer
Kraig McLeod, Safety Engineer
Bridge Area Engineer, Butte 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
Matt Wagner, Engineering Division
Alyce Fisher, Fiscal Programming Section
Jake Goettle, Construction Bureau – VA Engineer
Dustin Rouse, District Preconstruction
Joe Walsh, District Projects Engineer
Mike Walsh, District Materials Lab
Kam Wrigg, District Maintenance Chief
Therese Iwaniak, 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
Darin Reynolds, Surfacing Design Supervisor
Jeff Jackson, Geotechnical Engineer
Pat McCann, District Geotechnical Manager
Paul Johnson, Project Analysis Bureau
Jean Riley, Planner
Wayne Noem, Secondary Roads Engineer
Dawn Stratton, Fiscal Programming Section

Introduction

A preliminary field review was held on September 11, 2014. MDT staff attending included:

Jennifer Nelson, PE, Butte Area Engineer, Road Design - Helena
Dustin Rouse, PE, Engineering Services Supervisor – Butte District
Joe Walsh, District Projects Engineer – Butte District
Mark French, Road Design Supervisor – Helena
Dale Hovden, Road Design - Helena
Deborah Wambach, Environmental - Helena
Scott Gerken, Road Design – Helena
Gregory Zeihen, Surfacing Design - Helena
Chad Coffman, Maintenance – Ennis
Craig Walker, Construction - Bozeman
Billy Saltzman, Construction - Bozeman

Proposed Scope of Work

The proposed project has been nominated to provide a single left-turn lane into the Rainbow Point recreational/residential area north of West Yellowstone.

Needs and Objectives

The project purpose is to provide a safe turning lane into the Rainbow Point recreational/residential area.

Project Location and Limits

- Location: Gallatin County on N-50 in T 13 S, R 5 E, Section 3 at approximately MP 4.9.
- Begin: Approximately MP 4.7+/- north of West Yellowstone.
- End: At MP 5.1+/- north of West Yellowstone.
- Length: 0.4 miles

As-built projects are:

FHP 45-3(1)	year 1966 (Reconstruct)
F-FH 50-1(8)1	year 1988 (Overlay)
NH 50-1(25)4	year 2007 (Overlay)

Future project:

NH 50-1(36)0	year 2015 (Seal & Cover)

The functional classification is rural principal arterial. Stationing on this project increases from north to south. Reference posts on this project increase from south to north. 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. The Transportation Management Plan (TMP) will consist of the following:

- The Traffic Control Plan (TCP) will include closing one lane during construction.
- The Traffic Operations (TO) plan will make use of lane closure devices and signs based on the MUTCD.
- The Public Information (PI) will consist of a news release to the local newspapers, providing a project description and department point of contact.

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

Physical Characteristics

This section of roadway was reconstructed in 1968 and was last overlaid 2007. The pavement width is 34 ft., with two 12 ft. lanes and two 5 ft. shoulders. Based on the Road Log this section of roadway has an asphalt surfacing thickness of 8.4 inches and 6.0 inches of gravel base. There have been 2 previous overlays, the first in 1988 was 0.30 ft. asphalt surfacing and the second in 2007 was 0.15 ft. asphalt surfacing.

PvMS Index Numbers for 2013 & Recommended Treatment for 2014:

Section	Ride	Rut	ACI	MCI	Construction 2014	Maintenance 2014
RP 3.5 to RP 8.53	79.9	78.5	99.9	93.9	C AC Crack Seal & Cover	M AC Crack Seal & Cover

This is a rural area and surrounding terrain is generally flat forest land belonging to the Gallatin National Forest. The existing horizontal alignment is on a straight southeasterly tangent with a curve to the right on the north end. The vertical grade is on a constant +0.2480 % throughout the project area. Existing grade & alignment meet current design standards. Existing fill slopes are 6:1's ±, fill heights are approximately 3 to 4 feet. There are no cut slopes along the project area.

Traffic Data

2014 AADT = 2,840 Present
2019 AADT = 2,980 Letting Year
2039 AADT = 3,640 Design Year
T = 13.2 %
EAL = 204

2013
AADT = 2,810
COM = 13.2 % 371
BUS = 0.8 % 23
FUT = 1.0 %
DHV = 16.10 %

Crash Analysis

A safety analysis has been requested for this project.

Major Design Features

a. **Design Speed.** The design speed for rural principal arterials in level terrain is 70 mph and the posted speed limit is 70 mph.
b. **Horizontal Alignment**. The horizontal alignment is on a tangent with a S. 20° 51' E. bearing through this section of highway and will be reconstructed along the same line. There is a curve to the right with a radius of 4,583.66 ft., 1332 ft. to the north of the intersection that may be impacted, depending on the final design.
c. **Vertical Alignment**. The vertical alignment is on a +0.2480% grade from south to north along this section of roadway. This grade will be closely matched with the new project.
d. **Typical Sections and Surfacing**. The new roadway will be constructed to the Route Segment Plan width of 40 ft. which includes 12 ft. travel lanes and 8 ft. shoulders, with a new 12 ft. left-turn lane for northbound traffic. The new roadway will conform to NHS Rural Principal Arterial standards, including 6:1 inslopes, 10 ft. of 20:1 ditch, and standard cut and fill slopes. The Surfacing Design Section will provide the surfacing recommendations for the project.
e. **Geotechnical Considerations**. Geotechnical will need to provide core samples for this project and recommendations for any subgrade requirements.
f. **Hydraulics**. No Hydraulic considerations are anticipated for this project. The existing drainage pattern will be perpetuated.
g. **Bridges.** There are no bridges on this project.

h. **Traffic.** Geometrics will provide a design layout for the Rainbow point intersection. Traffic will provide plans to upgrade signing as needed and provide pavement marking quantities for inclusion in the road plans.
i. **Pedestrian/Bicycle/ADA**. There are no existing designated pedestrian, bicycle or ADA facilities, and none will be installed as part of this project.
j. **Miscellaneous Features**. Intermittent shoulder rumble strips will be installed through the area of reconstruction.
k. **Context Sensitive Design Issues**. None at this time.

Other Projects
NH 50-1(36)0, West Yellowstone – North is a pavement preservation project which runs from MP 0.0 to MP 9.4 and was let in August 2014.

Location Hydraulics Study Report
No Location Hydraulics Study Report is anticipated.

Design Exceptions
No Design Exceptions are anticipated at this time.

Right-of-Way
Existing R/W is at 70 feet on each side of the PTW. New R/W is anticipated for this project. R/W will be designed to standard right-of-way widths for arterial. R/W will also need to explore the possibility of modifying the forest service approach leading to a dirt trail that heads out to the east of the PTW to align it with the approach to Rainbow Point Road.

Access Control
There will be no changes to access control with this project.

Utilities/Railroads
Underground utilities are in the area; a telephone utility box is located on the east side of the PTW near Rainbow Point. There are no railroads in the project area; therefore, no railroad involvement is anticipated.

Maintenance Items
No maintenance issues were discussed during the field review for this project.

Intelligent Transportation Systems (ITS) Features
No ITS features will be incorporated into this project.

Experimental Features
No experimental features have been identified for use on this project.

Survey
A Control Survey and Digital terrain Model/XYZ Survey were requested on 7 October 2014 for this project. Utilities will be located by Department Forces. No S.U.E. survey will be required.

A Soil Survey was also requested on 7 October 2014.

Public Involvement
A limited PI component (Level A) will be included in the project outlining strategies for public notification.

Level A
1. News release explaining the project and including a department point of contact.
2. Construction notification and information during construction

Environmental Considerations
A Programmatic Categorical Exclusion is anticipated for this project. Impacts to wetlands or streams are not anticipated. The Standard Specification 107.11.8 Protection of Aquatic Resources applies to this project. CWA 404 and SPA 124 permitting is not anticipated. Any tree removal will need to be conducted in compliance with the Migratory Bird Treaty Act. Conifer removal will likely need to be coordinated with the USFS, Gallatin National Forest. Further coordination with agency biologists is required regarding potential timing restrictions associated with bison migration out of the park and/or grizzly bear activity. No cultural or hazardous waste issues have been identified at this time.

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

Traffic Control
A Transportation Management Plan (TMP) consisting of a Traffic Control Plan (TCP), a limited Transportation Operations (TO) component and a limited Public Information (PI) component is appropriate for this project.

Proposed traffic control procedures for the construction zone may include temporary lane closures and shifting traffic lanes during construction. Tourist traffic related to summer park visitors and winter snow mobile activity should be considered during construction.

Preliminary Construction Cost Estimate

	Estimated cost	Inflation (INF) (from PPMS)	TOTAL costs w/INF + IDC (from PPMS)
Road Work	$ 645,300		
Traffic Control	$ 64,530		
Subtotal	$ 709,830		
Mobilization (10%)	$ 70,983		
Subtotal	$ 780,813		
Contingencies (15%)	$ 117,122		
Total CN	**$ 897,935**	**$ 135,413**	**$ 1,127,692**
CE (10%)	**$ 89,794**	**$ 13,541**	**$ 112,769**
TOTAL CN+CE	**$ 987,729**	**$ 148,954**	**$ 1,240,461**

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

Full roadway and signing plans and roadway cross sections will be developed for this reconstruction project. The preliminary engineering budget appears sufficient for the intended scope of work. Design efforts will be initiated using GEOPAK/criteria

Project and Risk Management

Jennifer Nelson is the Project Manager and Helena Road Design will be responsible for the plans. This project is not considered a Project of Division Interest (PoDI) by FHWA.

The overall risk to the project cost and schedule is low. No significant project risks have been identified. The primary schedule risk to project development is likely to be negotiation with the USFS regarding relocating their approach. Coordination will be initiated early in project development to minimize/mitigate this risk.

Ready Date

A ready date will be established for this project once the override process is completed. The project letting is currently outside the TCP.

Site Map

The project site map is provided below.