



Montana Department of Transportation

2701 Prospect Avenue
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Helena MT 59620-1001

Timothy W. Reardon, Director
Brian Schweitzer, Governor

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FHWA
MONTANA DIVISION

June 27, 2012



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

Attention: Jeff Patten

Subject: Categorical Exclusion
TOSTON - SOUTH
NH 8-4(47)89
Control Number: 5814

This is to request approval of this proposed project as a Categorical Exclusion (CE) under the provisions of 23 CFR 771.117(d), and the Programmatic Agreement as signed by the Montana Department of Transportation (MDT) and the FHWA on April 12, 2001. A Copy of its Alignment and Grade Review Report (AGRR) dated June 20, 2012 is attached. This proposed action also qualifies as a CE 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 Programmatic Categorical Exclusion Approval (PCE) as initially agreed by the (former) MONTANA DEPARTMENT OF HIGHWAYS (MDOH) and the FHWA on December 6, 1989. (Note: An "X" in the "N/A" column is "Not Applicable" to, while one in the "UNK" column is "Unknown" at the present time for this proposed project.)

NOTE: A response in a shaded 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 of questions regarding environmental impact, unusual circumstances, and right-of-way requirements, with checkboxes for each response option.

	<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 type="checkbox"/>	<input checked="" 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 & Water Conservation Fund Act</i> (16 USC 460L, <i>et seq.</i>) on or adjacent to proposed 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 checked="" 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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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 checked="" 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 checked="" 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").	<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 <u>33 CFR Parts 320-330</u> 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	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 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 type="checkbox"/>	<input type="checkbox"/>
c. South Fork of the Flathead River (headwaters to Hungry Horse Reservoir).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Missouri River (Fort Benton to Charles M. Russell National Wildlife Refuge).	<input type="checkbox"/>	<input type="checkbox"/>	<input 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 <u>23 CFR 772.5(h)</u> , 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 <u>23 CFR 772</u> for FHWA's Noise Impact analyses and MDT's Noise Policy.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 <i>CERCLA</i> or <i>CECRA</i>) 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 Montana Pollutant Discharge Elimination System's conditions (<u>ARM 16.20.1314</u>), including temporary erosion control features for construction would be met.	<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> (7-22-21, 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If the proposed work would affect Important Farmlands, then an AD-1006 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>).	<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 <u>40 CFR 81.327</u> 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 Quality Division, 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" (Indian Reservations) under <u>40 CFR 52.1382(c)(3)</u> ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Federally listed Threatened or Endangered (T/E) Species:				
A. There are recorded occurrences, and/or critical habitat in this proposed project's vicinity.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. Would this proposed project result in a "jeopardy" opinion (under <u>50 CFR 402</u>) 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.

Barry Brosten, Date: 6/27/12
Barry Brosten - Butte District Project Development Engineer
MDT Environmental Services Bureau

Concur Heidy Bruner, Date: 6/27/12
Heidy Bruner, P.E. - Engineering Section Supervisor
MDT Environmental Services Bureau

Concur Jeffery a Patten, Date: 6-29-12
Federal Highway Administration

MDT attempts to provide accommodation for any known disability that may interfere with a person participating in any service, program or activity of the Dept. Alternative accessible formats of this information will be provided upon request. For further information, call 406-444-7228 or TTY (800-335-7592), or call Montana Relay at 711.

Attachment: AGRR

Copy (w/o attach.): Jeff Ebert
Paul Ferry
Tom Martin
Robert Stapley
Suzy Price
Nicole Pallister
Tom Erving
Barry Brosten
Environmental Services File
Montana Legislative Branch Environmental Quality Council (EQC)

Butte District Administrator
Highway Engineer
Chief, Environmental Services Bureau
Right-of-Way Bureau Chief
Contract Plans Bureau Chief
Fiscal Programming Section Supervisor
Fiscal Programming Section
Environmental Services



Memorandum

To: Distribution

From: Paul Ferry, P.E.
 Highways Engineer

Date: June 20, 2012

Subject: **NH 8-4(47)89**
Toston - South
CN 5814000
Work Type 139 – Reconstruction-With Added Capacity

The combined Alignment and Grade Review and Scope of Work Report for this project has been released on _____. We request that those on the distribution review this report and submit your concurrence within two weeks of the above date.

Your comments and recommendations are also requested if you do not concur or concur subject to certain conditions.

When all the personnel on the distribution list have concurred, we will submit this report to the Preconstruction Engineer for approval.

I recommend approval:

Approved _____ Date _____

Distribution:

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

cc:

- | | |
|--|-------------|
| Dawn Stratton, Fiscal Programming Section | |
| Jim Davies, Project Design Manager, Butte District | |
| Damian Krings, Road Design Engineer | Master file |

e-copies:

- | | |
|--|---|
| Jim Walther, Engineering, Preconstruction Engineer | Jean Riley, Planner |
| Lesly Tribelhorn, Highways Design Engineer | Scott Bunton, Engineering Cost Analyst |
| Mark Goodman, Hydraulics Engineer | Jake Goettle, Construction Bureau – VA Engineer |
| Walt Ludlow, District Hydraulics Engineer | Dustin Rouse, District Preconstruction |
| Bonnie Gundrum, Env. Resources Section Supervisor | Joe Walsh, District Projects Engineer |
| Deb Wambach, District Biologist | Casey Ballard, District Materials Lab |
| Barry Brosten, District Project Development Engineer | Kyle DeMars, District Maintenance Chief |
| Danielle Bolan, Traffic Engineer | Phillip Inman, Utilities Engineering Manager |
| LeRoy Wosoba, District Traffic Project Engineer | David Hoerning, R/W Engineering Manager |
| Kraig McLeod, Safety Engineer | Greg Pizzini, Acquisition Manager |
| Nathan Haddick, Bridge Area Engineer, Butte District | Joe Zody, R/W Access Management Section Manager |
| Matt Strizich, Materials Engineer | Paul Johnson, Project Analysis Bureau |
| Daniel Hill, Pavement Analysis Engineer | Sue Sillick, Research Section Supervisor |
| Pat McCann, District Geotechnical Manager | Alyce Fisher, Fiscal Programming |
| Bryce Larsen, Supervisor, Photogrammetry & Survey | Dawn Stratton, Fiscal Programming |
| Marty Beatty, Engineering Information Services | Duane Williams, MCS |
| Paul Grant, Public Involvement Officer | Jeff Patten, FHWA |

ALIGNMENT AND GRADE/SCOPE OF WORK REPORT

Introduction

At the public meetings held in both Three Forks on December 6, 2011 and in Townsend on December 15, 2011, we received several comments from the public stating they did not like the amount of transitions on the project and would like to see longer passing lanes. As a result of the public comments, the south end of the project has been extended. The second alignment and grade addressed this change. This report will document the second alignment and grade comments and the scope of work.

The second Alignment and Grade Review for the subject project was held June 18, 2012. Comments received from the review have been included in this report. The following personnel attended the review:

Jim Davies – MDT – Road Design
Liza Zeigler – MDT – Road Design
Dustin Rouse – MDT – Butte Preconstruction Engineer
Walter Ludlow – MDT - Hydraulics
Barry Brosten – MDT – Environmental
Pat McCann – MDT – Geotechnical
Dave Cunningham – MDT – Geotechnical
Bob Johnson – MDT – Traffic Geometrics
Eric Matye – MDT – Traffic Geometrics
Shane Johnson – MDT – Construction (Three Forks)
Matt King – MDT - Utilities

Scope of Work

This project is a reconstruction project with a section of widening at the south end. The proposed project will provide several different top surface widths. There will be a 40.0' wide-two lane section, a 52.0' wide-two lane with turning lane section, a 54.0' wide-two lane with left turning lane section, a 64.0' wide-four lane section and a 78.0' wide-four lanes with left turning lane. The horizontal alignment will be perpetuated. The vertical alignment will be adjusted to meet current standards and standard cut & fill slopes will be used to accommodate projected future traffic volumes.

Project Location and Limits

- Location: Broadwater County, on National Highway Route 8/US 287, in the following townships, ranges and sections:
T 5 N, R 2 E, sections 22, 23, 27, 33, 34
T 4 N, R 2 E, sections 4, 5, 8.
- Begin: RP 89.1±, about ½ mile south of the intersection of US 287 and Radersburg Road, English as-built station 997+02.00, F 8-4(10)
- End: RP 94.6±, Metric as-built station 23+18.00, NH 8-4(41)
- Length: 5.5± miles

Physical Characteristics

National Highway Route 8/US 287 between RP 89.1± and 94.6±, is a principal arterial in level terrain. The project is located in a rural area where the land is used primarily for agricultural purposes. This project will connect to an existing roadway width of 28.0 ft on the north end and will tie into the US 287 Passing Lanes (South of Toston, CN B377) project on the south end. Numerous approaches (mainly private and farm field) are present along the roadway. There are several white crosses located along the roadside. There are several center pivot irrigation systems located alongside the roadway. The existing vertical alignment follows the terrain with

Scope of Work Report

Toston - South; NH 8-4(47)89
Project Manager: Jim Davies

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numerous vertical curves; many of these do not meet current design standards.

Traffic Data

The 2011 traffic data is as follows:

2011 AADT = 3,290 Present
2014 AADT = 3,500 Letting Year
2034 AADT = 5,300 Design Year
DHV = 640
T = 13.7%
EAL = 316
AGR = 2.1%

Crash Analysis

ENGINEERING STUDY EVALUATION

DATE: March 8, 2011

DESCRIPTION: TOSTON - SOUTH

ROUTE & MP: N-8 RP 89.100 TO 93.300

DATA TIME FRAME: 1-1-2001 TO 12-31-2010

STATEWIDE AVERAGE FOR RURAL NON-INTERSTATE NHS STUDY AREA

ALL VEHICLES CRASH RATE:	<u>1.07¹⁾</u>	<u>0.70</u>
ALL VEHICLES SEVERITY INDEX:	<u>2.14²⁾</u>	<u>1.94</u>
ALL VEHICLES SEVERITY RATE:	<u>2.29³⁾</u>	<u>1.36</u>
TRUCK CRASH RATE:	<u>0.96⁴⁾</u>	<u>0.50</u>
TRUCK SEVERITY INDEX:	<u>2.34⁴⁾</u>	<u>3.33</u>
TRUCK SEVERITY RATE:	<u>2.25⁴⁾</u>	<u>1.67</u>
TRUCK CRASHES:		<u>3</u>
TOTAL RECORDED CRASHES:		<u>35</u>

¹⁾Crash rates are defined as the number of crashes per million vehicle-miles.

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

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

⁴⁾Statewide average truck crash rate, truck severity index, and truck severity rate are for the years 2004 through 2008.

I. VARIATIONS FROM AVERAGE OCCURRENCE:

No major variations from statewide averages for rural non-interstate NHS routes.

II. CRASH CLUSTERS AND SAFETY PROJECTS:

There were no crash clusters or safety projects identified during the 2001-2010 study period

III. REMARKS:

The main crash trend is single-vehicle run-off-the-road crashes (19 out of 35). Of these crashes, seven vehicles overturned, seven struck an embankment, three struck a fence and two struck a ditch.

Nine of the crashes involved either a collision with a wild animal (7 crashes) or a domestic animal (2 crashes).

A fatal collision occurred when a northbound pickup truck crossed the centerline and struck a southbound truck. The crash rate, severity index and severity rate are below statewide averages.

The Traffic Safety Section has no recommendations for consideration during project development.

Major Design Features

- a. **Design Speed.** The design speed for this NHS Primary Route in level terrain is 70 mph.
- b. **Horizontal Alignment.** The horizontal alignment will be perpetuated for this project. The alignment is a tangent section of roadway.
- c. **Vertical Alignment.** The vertical alignment will closely follow the existing grades to minimize impacts and minimize the amount of borrow required. All vertical curves will meet current standards. This will involve filling sags in and cutting down some crests. The maximum grade on the highway is 1.444%.
- d. **Typical Sections.** The description of each typical section is as follows:
 - Typical Section No. 1 includes the connection from the existing roadway to the beginning of this project. In the field, the shoulder width of the existing roadway was measured and is 3.0'. This typical will be updated accordingly and will have a total top width of 30.0'.
 - Typical Section No. 2 includes 2-12.0' lanes with 8.0' shoulders for a total top width of 40.0'. This top width is applied at the beginning, end and all sections between turning lanes.
 - Typical Section No. 3 from Sta 98+93 to 127+21 includes 2-12.0' driving lanes, a 14.0' turning lane and 8.0' shoulders for a total top width of 54.0'.
 - Typical Section No. 4 from Sta 135+61 to 184+38 includes 4-12.0 driving lanes, a 14.0' turning lane and 8.0' shoulders for a total top width of 78.0'.
 - Typical Section No. 5 from Sta 189+28 to 228+09 and Sta 253+91 to 279+69 includes 4-12.0' driving lanes, and 8.0' shoulders for a total top width of 64.0'.
 - Typical Section No. 6 from Sta 295+59 to 332+82 includes 4-12.0' driving lanes, a 14.0' turning lane and 8.0' shoulders for a total top width of 78.0'. This section is a widening typical and adds an additional 12.0' to both sides only.
 - Typical Section No. 7 from Sta 279+69 to 290+69 and 337+64 to 345+86 (EOP) includes 4-12.0' driving lanes, and 8.0' shoulders for a total top width of 64.0'. This section is a widening typical and adds an additional 12.0' to both sides only.
 - Typical Section No. 8 from Sta 232+29 to 249+71 includes 4-12.0' driving lanes, 12.0' turning lane and 8.0' shoulders for a total top width of 76.0'.
- e. **Surface Design.** The surfacing recommendation from the Pavement Analysis Section

included the following:

- Reconstruction/Widening
 - 0.40' PMS
 - 1.05' CAC
 - Design R-Value 18

The Geotechnical Section has recommended a 2.0' cap of special borrow be placed prior to the surfacing section. The adjusted surfacing section will be as follows:

- 0.40' PMS
- 0.90' CAC
- Design R-Value 30

- f. **Grading.** Grading on this project will be Unclassified Excavation and Unclassified Borrow. The borrow material will be contractor furnished and for estimating purposes at the review a 20 % shrinkage factor was used. The actual shrinkage mostly depends on the source of the borrow material to be used. The Geotechnical Section will work with the District and determine what factor will be used in the final plans.
- g. **Slope Design.** The mainline slopes are designed to NHS Primary Route standards.
- h. **Geotechnical Considerations.** Geotechnical items that will likely need to be incorporated into the project include Special Borrow and Culvert Foundation Treatment. Final recommendations will be provided in the Activity 464 and 468 Reports after the subsurface investigation and laboratory testing have been completed.
- i. **Bridges.** There is no proposed bridge work.
- j. **Safety Enhancements.** Sight distance will be improved by the elimination of substandard vertical curves in the area. Other vertical curves will be eliminated, which will result in a straighter alignment. Several approaches will be realigned to improve both stopping sight distance on the mainline and better visibility of vehicles on the mainline from the approaches.

Center turn lanes will provide safer areas for left turning vehicles to wait for oncoming traffic to clear before executing their left turns. Wider shoulders will provide errant vehicles more recovery area and more room for disabled vehicles. Flatter slopes will improve recovery for errant vehicles, and provide better visibility of animals along the roadway. Rumble strips will be added to alarm drivers.

- k. **Context Sensitive Design.** At this time, no context sensitive design issues have been identified.
- l. **Traffic.** The Traffic Engineering Section will design all major approach geometrics with the following details considered:
 - The junction of Toston Dam Road and Johnson Loop will be improved. Currently the approaches enter US 287 at skewed angles. The approaches will be realigned to 90° however they will be offset from each other. An attempt was made to realign the county roads to allow the approaches to line up with each other and be 90° to US 287, but there were issues with doing this. Due to a great amount of impacts to irrigation features (canal & center pivot), it was decided to leave the alignment of the approaches offset, but realigned at 90°. They are offset correctly with the flow of mainline traffic to allow left turning movements to function properly. The turning radii will be improved to accommodate truck traffic.
 - The junction of Lone Mountain Road will be realigned. The Lone Mountain Road approach (Rt.) will be moved south to bring the alignment more square with the roadway. The approach on the Lt. will be moved directly across from the new Lone Mountain Road alignment.
- m. **Miscellaneous Features.** There is a proposed school bus turnaround that will be located on the east side at Station 145+00. Contact with the local school district agrees that the turnaround would be needed. Geometrics will provide a design for the turnaround.

- n. **Pedestrian/Bicycle/ADA.** Bicycles will be accommodated by the addition of wider shoulders.

Design Exceptions

No design exceptions are anticipated for this project.

Right-of-Way

The Right of Way Bureau will provide right-of-way ownership along the project. New right-of-way acquisition will be needed. Easements and construction permits will also be required. New fencing will be provided according to the fencing policy. The Right of Way Bureau will need to investigate the existing irrigation ditches to determine if they should be perpetuated or removed. There are many center pivot irrigation systems located next to the roadway, as design progresses it can be determined if any roadside safety measures will be needed.

Utilities/Railroads

There are overhead and underground utilities present within the project limits. Due to the nature of this project some utilities will need to be relocated.

There is an underground, high-pressure petroleum crossing at RP 91.9; the depth of this pipeline will be needed by design.

At the junction of Toston Dam Rd. and Johnson Loop (Sta 108+50), an irrigation pipeline crosses under the roadway. This will need to be located. This is not an actual utility, however we need it included in a phase 2 SUE survey.

At the junction of Lone Mountain Road (Sta 239+60), an irrigation pipeline crosses under the roadway. This will need to be located. This is not an actual utility, however we need it included in a phase 2 SUE survey.

There will be no railroad involvement with this project.

Access Control

Access control will be implemented as part of this project. The access control for this project should be done to match the access control being implemented in the related projects on this road.

Maintenance Items

No maintenance items have been identified.

Environmental Considerations

A programmatic categorical exclusion environmental document will be prepared for this project. If situations are observed during construction that may potentially impact water quality, including wetland areas, utilize Best Management Practices (BMP) and/or temporary erosion control measures as necessary to protect the resource. Refer to Section 208 of the MDT Detailed Drawings for erosion and sediment control Best Management Practices. The two irrigation canal crossings appear to be USACOE jurisdictional and therefore will require CWA 404 permitting. An SPA 124 authorization is not anticipated for the project. There are no wetlands located within the project limits.

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 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 will also be included in the

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

Other Projects

There are no other projects in the area.

Traffic Control

Traffic will be maintained on the project through the use of phased construction and lane closures. No detours are anticipated.

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.

Intelligent Transportation Systems (ITS) Features

No ITS features are proposed.

Public Involvement

This project will require level “C” involvement and include the following:

- Letter of Intent and News Release was completed October 12, 2011 explaining the project and including a department point of contact. Contact was made with newspapers serving the area to develop a story and graphics that explain and illustrate the proposal. Radio and TV contacts.
- Personal contacts local government officials, interest groups.
- Personal contacts with adjacent landowners explaining final design.
- Two Public Meetings were held. The first meeting was on December 6, 2011 in Three Forks. The second meeting was on December 15, 2011 in Townsend. The following are some comments related to the alignment and grade report:
 - The current designed length for the passing lanes is 1.5 miles. The public raised concern that this length was too short.
 - Adjacent landowners volunteered to meet with MDT’s Hydraulic Engineer to show MDT where PVC irrigation mainlines cross under the highway.
 - The public showed concern that the existing grade at the Lone Mountain Road junction is too steep. Trucks turning onto the highway have a tough time pulling up this grade. The current design greatly reduces the existing grade to meet design standards.
 - The public showed concern about the trucks entering the potato cellar at approximate Sta 78+00 RT. The public questioned if this area would also warrant a left turn lane. MDT’s traffic section said that the fact that harvest lasts approximately one month, when the math is done it doesn’t amount to that many trucks per hour and will not warrant a left turn lane.
 - The public showed concern about bus turnarounds. At approximately Sta 147+00 LT, a bus turnaround will be added.

Cost Estimate

The major cost increase is additional embankment as a result of raising the roadway grade.

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AGR Estimate	Estimated Cost	Inflation (INF) (from PPMS)	TOTAL Costs w/INF + IDC (from PPMS)
Road Work	\$5,000,000		
Traffic Control	\$400,000		
Subtotal	\$5,400,000		
Mobilization (10%)	\$540,000		
Subtotal	\$5,940,000		
Contingencies (20%)	\$1,200,000		
Total CN	\$7,140,000	\$ 489,787	\$ 8,365,298
CE (10%)	\$714,000	\$ 48,979	\$ 836,530
TOTAL CN + CE	\$7,854,000	\$ 538,766	\$ 9,201,828

AGR2 Estimate	Estimated Cost	Inflation (INF) (from PPMS)	TOTAL Costs w/INF + IDC (from PPMS)
Road Work	\$7,001,000		
Traffic Control	\$450,000		
Subtotal	\$7,451,000		
Mobilization (15%)	\$745,000		
Subtotal	\$8,196,000		
Contingencies (10%)	\$1,639,000		
Total CN	\$9,835,000	482,318	11,317,389
CE (10%)	\$984,000	48,232	1,131,739
TOTAL CN + CE	\$10,819,000	530,550	12,449,128

Project Management

Helena Road Design is the lead on this project and the project design manager is Jim Davies. This project is under full FHWA oversight.

AGR Comments

The following changes discussed during the AGR office review will be made to the sheets as noted:

General

- It was decided to send out a news release to inform the public of the extension of the project. Prior to the news release, the landowners will be notified.
- Additional Hydraulic survey will be requested for the pipe at Sta 307+00. Currently a siphon is located here. Hydraulics will make a recommendation for this crossing.

Cost Estimate

- Add special borrow and geotextile.

Plan Sheets

Sheet 1

- No changes.

Sheet 2-3

- The boring log and note will be added.

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- The new wetland note will be added.

Sheets 4-5

- The notes still reference metric. They will be updated to English.

Sheets 6-9

- A 2.0' lift of special borrow will be added to the design, therefore the typical sections will be updated to 0.90' of CAC.
- The surfacing design is now based on R-30, so the notes will be updated accordingly.
- On the widening typical, the seam from the widening will be located in the center of the driving lane rather than the wheel path.
- On the widening typicals, special borrow and geotextile will be added under the widened section only.

Sheet 10

- No changes.

Sheet 11-20

- The sheets will be adjusted, so the main intersections are more centered on the page.
- The larger approaches will be designed with an alignment and profile to aid in construction.

Sheets 21-30

- The ditch access road will be avoided from Sta 137+00 to 139+00 ft.
- The approach and bus loop at Sta 147+00 ft will be moved south to tie in better with the existing road.
- The right-of-way information will be added to the additional section at the end of the project.
- Some of the survey information appears to be missing on sheet 28, this will be updated accordingly.

Sheets 31

- The unclassified borrow total at the end of the mass diagram will be updated.

Cross Section Sheets

- No changes.

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