Montana Department of Transportation

Environmental Scan

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List of Acronyms

AST	Aboveground Storage Tank
BLM	Bureau of Land Management
BMA	Block Management Area
BNSF	Burlington Northern Santa Fe (Railroad)
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Index System
CESQG	Conditionally Exempt Small Quantity Generator
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Maps
GIS	Geographic Information System
LUST	Leaking Underground Storage Tank
MDEQ	Montana Department of Environmental Quality
MDT	Montana Department of Transportation
MFWP	Montana Department of Fish, Wildlife, and Parks
MP	milepost
NFIP	National Flood Insurance Program
NPL	National Priority List
NPS	National Park Service
NRC	National Response System
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
NWR	National Wildlife Refuge
RCRA	Resource Conservation and Recovery Act
RCRIS	Resource Conservation and Recovery Information System
ROW	right-of-way
TMDL	total maximum daily load
TRE	Theodore Roosevelt Expressway
TRED	Transportation Regional Economic Development
TRI	Toxics Release Inventory
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service

1 Introduction

The Montana Department of Transportation (MDT) launched the US 2/MT 16 Transportation Regional Economic Development (TRED) Study to examine whether four-lane highway improvements can be justified by economic and safety considerations. The Study's focus is on the federally-named Theodore Roosevelt Expressway (TRE). The Montana segment of the TRE includes US 2 from the North Dakota state line to Culbertson, Montana, then north on MT 16 to the Port of Raymond (Figure 1).

The TRED Study will assess future opportunities that might indicate the need for highway expansion in the area. Trade areas are being assessed at the corridor level, as well as regionally and internationally. The Study includes an environmental scan process that is reported in this document.

1.1 Scope and Purpose

The purpose of an environmental scan during a corridor study is to provide an initial understanding of potential environmental issues that could influence the development of improvement alternatives along the corridor as a project moves forward. Environmental resources are protected by Federal, state, and local laws. The objective of the environmental scan is to review existing environmental conditions in the project area and identify constraints that may influence project development.

The environmental scan process consisted of support meetings and/or comment opportunities with agency representatives, compilation and review of environmental databases, and a field reconnaissance of the US 2/MT 16 TRED corridor. The reconnaissance of the corridor was conducted on August 1 and 2, 2006.

Agencies consulted during the environmental scan process include:

- Montana Department of Transportation
- United States Environmental Protection Agency
- United States Army Corps of Engineers
- United States Fish and Wildlife Service (including Medicine Lake National Wildlife Refuge)
- Montana Department of Fish, Wildlife, and Parks

1.2 Background

The TRE in Montana is a major thoroughfare not only for eastern Montana, but for the region surrounding it. This corridor serves international and interstate commerce and travel. MT 16 is the primary north/south corridor in eastern Montana, connecting Interstate 90 with Canada. US 2 is a major east/west corridor across northern Montana.

The primary objective of the TRED Study is to identify what economic, regulatory, or operational changes would result in traffic and safety conditions that would warrant building a 4-lane road on the TRE in Montana.

Secondary objectives of the TRED Study include the following:

- Assess existing regional economic conditions and development opportunities
- Develop traffic growth forecast and freight volume projections under existing development plans and economic opportunities
- Develop traffic growth forecast and freight volume projections with induced economic development and travel demand
- Conduct sensitivity analysis and risk analysis to facilitate consensus building
- Engage local stakeholders and the general public

The TRED Study will include the documentation of existing conditions, including this environmental scan, as well as an assessment of alternatives, forecasts of population and traffic, econometric analysis of roadway improvements, development of alternatives and recommendations, and a comprehensive public involvement process.

1.3 Organization of Report

This report goes on to describe the geographic setting of the existing US 2 and MT 16 corridors in the study area (Section 2). The document continues with descriptions of environmental scan methodologies and results for each geographic area for physical resources (Section 3), biological resources (Section 4), cultural resources (Section 5), and utilities (Section 6). Figures for the report may be found in Appendix A. Photos of the study corridor are included in Appendix B. A list of acronyms is defined on page v.

2 Geographic Setting

For the purpose of this environmental scan, the project has been divided into four segments (Figure 1):

- US 2 – North Dakota State Line to Culbertson (MP 669.5 – 644.5)
- MT 16 – Culbertson to Medicine Lake (MP 86.25 – 64)
- MT 16 – Medicine Lake to Plentywood (MP 64 – 41.25)
- MT 16 – Plentywood to the Canadian Border (MP 0 – 15.5)

The following sections will describe these segments.

2.1 US 2 – North Dakota State Line to Culbertson

The US 2 corridor from the North Dakota state line to Culbertson extends from approximately milepost (MP) 669.5 at the North Dakota state line west to approximately MP 644.5 at the intersection with MT 16 in Culbertson. The corridor passes rolling and grassy terrain, most of which is agricultural, with some wetland areas. There are a few oil drilling and storage operations, particular near MP 658. Railroad tracks approach the corridor from the south near MP 659 and follow the corridor closely west into Culbertson. Culbertson is the largest community along this corridor, and Bainville is a smaller community located near MP 659.

2.2 MT 16 – Culbertson to Medicine Lake

The MT 16 corridor from Culbertson to Medicine Lake extends from the intersection with US 2 in Culbertson at approximately MP 86.25 through the town of Medicine Lake, at approximately MP 64. The corridor passes through flat to rolling grassy terrain, most of which is agricultural including some potentially historic farms. There are several wetland areas located within the corridor. The Medicine Lake National Wildlife Refuge (NWR) is located at approximately MP 66. The communities located in this corridor include Culbertson (MP 86), Froid (MP 75.5), and Medicine Lake (MP 64).

There are many Block Management Areas (BMA) located throughout the corridor, managed by the Montana Department of Fish, Wildlife, and Parks (MFWP). The Block Management program is a cooperative effort among private and some public landowners, MFWP, and hunters. The program seeks to: 1) maintain public hunting access to private and isolated public lands; 2) help landowners manage public hunting and provide benefits to offset impacts like increased road maintenance and weed control; and 3) help MFWP manage wildlife.

2.3 MT 16 – Medicine Lake to Plentywood

The MT 16 corridor from Medicine Lake to Plentywood extends from approximately MP 64 on the north side of Medicine Lake through the town of Plentywood to the intersection with MT 5 at approximately MP 41.25. The corridor passes through flat to rolling grassy terrain, most of which is agricultural including

some potentially historic farms. There are some bluffs located on the east side of the highway near MP 53. There are several wetland areas and BMAs located within the corridor. Oil production and storage is present throughout the segment; of particular note is a location with several oil tanks and a sludgy pond on the west side of the highway near MP 62.

The communities located in this corridor include Reserve (approximately 0.75 miles west of MP 56 near the railroad), Antelope (MP 50), and Plentywood (MP 42). Plentywood is a relatively large community, and includes residential, commercial, and some industrial areas.

2.4 MT 16 – Plentywood to the Canadian Border

Milepost markers on MT 16 are reset to zero at the intersection with MT 5 on the north side of Plentywood. The MT 16 corridor from Plentywood to the Canadian border extends from that intersection at MP 0, to the Canadian border at approximately MP 15.5. The corridor passes through rolling grassy terrain, most of which is agricultural including some potentially historic farms. There are several wetland areas associated with glacial potholes located within this segment.

There is some commercial and industrial land use for the first quarter-mile north of Plentywood. There is a golf course located at MP 0.5. The communities located in this corridor include Plentywood (MP 0) and Raymond (MP 7).

3 Physical Resources

3.1 Land Ownership

The TRED project display of public ownership in the Study Area (Appendix F) was reviewed for land ownership by private, Federal, and state entities along the study corridor. Refer to Figure 2 for an overview of land ownership in the study corridor.

MDT compiled aerial photographs of six communities in the corridor with overlays of a 4-lane right-of-way (ROW), so that preliminary impacts to these communities could be assessed from expanding the roads to 4-lanes. An urban section with a 58-foot ROW was assumed for Culbertson, Medicine Lake, and Plentywood. A rural section with a 110-foot ROW was assumed for Bainville, Froid, and Antelope. These aerials were reviewed and discussions of preliminary community impacts are included in the following sections. These discussions are preliminary in nature, and are not intended to substitute for full socioeconomic impact analyses.

Reviews were also conducted to determine the presence of Section 4(f) and Section 6(f) properties along the corridor. Section 4(f) refers to the original section within the Department of Transportation Act of 1966, which set the requirement for consideration of park and recreational lands, wildlife and waterfowl refuges, and historic sites in transportation project development. Prior to approving a project that "uses" a Section 4(f) resource, the Federal Highway Administration (FHWA) must find that there is no prudent or feasible alternative that completely avoids 4(f) resources. "Use" can occur when land is permanently incorporated into a transportation facility or when there is a temporary occupancy of the land that is adverse to a 4(f) resource. Constructive "use" can also occur when a project's proximity impacts are so severe that the protected activities, features, or attributes that qualify a resource for protection under 4(f) are "substantially impacted". (HDR, 2006) Section 4(f) resource information was gathered by field observation and review of the National Register of Historic Places (NRHP) list for Roosevelt and Sheridan counties. It can also be assumed that each of the small communities in the study corridor likely has its own park or recreation facility, in addition to historic sites that may not be listed on the NRHP. It should be noted that potential 4(f) sites that were identified using the NRHP and windshield observations of recreational areas are not intended to substitute for an extensive 4(f) evaluation. Formal 4(f) evaluations will have to be conducted prior to any land acquisition or construction along the highway corridor.

Section 6(f) of the Land and Water Conservation Funds Act applies to all projects that impact recreational lands purchased or improved with land and water conservation funds. The Secretary of the Interior must approve any conversion of property acquired or developed with assistance under this act to other than public, outdoor recreation use (ITD, 2006). 6(f) resource information for Roosevelt and Sheridan counties was collected from MFWP.

3.1.1 US 2 – North Dakota State Line to Culbertson

According to the Public Ownership map created for the TRED Study Area in July 2006 (Appendix F), the US 2 – North Dakota State Line to Culbertson segment is predominantly privately owned. There are scattered tracts of Montana State Trust Lands and Turtle Mountain Allotted Lands, which is tribal land for the Turtle Mountain Chippewa Indians. There are only a few tracts of Bureau of Land Management (BLM) land, mainly to the south.

The 110-foot ROW overlay in Bainville shows very little impacts to residences. Most of the ROW to be acquired is agricultural land. The frontage of two residences and the driveway for another will be slightly impacted.

The 58-foot ROW overlay in Culbertson shows slightly more impact to residential areas. To avoid parks (4(f) resources) along the MT 16 corridor in Culbertson, there may be more residential frontage converted to ROW. It is difficult to assess at this stage whether any structures would be affected, but it is possible.

4(f) resources in this corridor segment are summarized in Table 1.

Table 1. 4(f) Resources within the US 2 - North Dakota State Line to Culbertson Segment

Name	Type of 4(f) Resource	Town (Specific Location Relative to Corridor)	Additional Information (Photo Reference)
Hale's Filling Station and Grocery (Lanark town site)	Historic Site – listed on NRHP	Bainville (Approx. MP 653.5 - ¼ - ½ mile north of US 2)	Listed 8/16/1994, NRHP Reference No. 94000864 (no photo available)

According to MFWP data, no 6(f) resources are located in this corridor segment.

3.1.2 MT 16 – Culbertson to Medicine Lake

According to the Public Ownership map for the TRED Study Area (Appendix F), the MT 16 – Culbertson to Medicine Lake segment is predominantly privately owned. The Fork Peck Indian Reservation is generally located 1-5 miles west of the highway. There are a few scattered tracts of Montana State Trust Lands and two tracts of BLM land. U.S. Fish and Wildlife Service (USFWS) land associated with the Medicine Lake NWR is noticeable at Medicine Lake, Homestead Lake, and Johnson Lake.

As discussed for the US 2 portion of Culbertson, the 58-foot ROW overlay in Culbertson shows some impact to residential areas. To avoid parks (4(f) resources) along the MT 16 corridor in Culbertson, there may be more residential frontage converted to ROW. It is difficult to assess at this stage whether any structures would be affected, but it is possible.

The 110-foot ROW in Froid does not impact as much residential land, as neighborhoods are generally located away from the highway. Mainly agricultural frontage is impacted, with some minor impacts to a few residences.

The 58-foot ROW overlay in Medicine Lake shows some impact to residential areas. Much of the residential neighborhoods are located off of the highway, but there are several residences that would be

affected by roadway widening. It is difficult to assess at this stage whether any structures would be affected, but it is possible.

4(f) resources in this corridor segment are summarized in Table 2.

Table 2. 4(f) Resources within the MT 16 – Culbertson to Medicine Lake Segment

Name	Type of 4(f) Resource	Town (Specific Location Relative to Corridor)	Additional Information (Photo Reference)
Culbertson school area	Park	Culbertson (Northwest corner of MT 16 and US 2 junction)	Observed playground and ball fields on northeast corner of MT 16 and US 2 (see Appendix A, photo 74)
Fjeseth Field	Park	Froid (Main and MT 16)	Observed baseball field in Froid (see Appendix A, photo 19)
Medicine Lake NWR	Wildlife Refuge	Medicine Lake (MT 16 crosses refuge at MP 65.5)	Encompasses Medicine Lake, Homestead Lake, and Johnson Lake (see Appendix A, photos 22-26)
Tipi Hills	Historic Site – listed on NRHP	Medicine Lake (address restricted)	Listed 8/1/1975, NRHP Reference No. 75001085 (no photo available)

6(f) resources located in this corridor segment are summarized in Table 3.

Table 3. 6(f) Resources within the MT 16 – Culbertson to Medicine Lake Segment

Name	Town
Culbertson Schools Recreation Complex	Culbertson
Culbertson Swimming Pool (3 listings)	Culbertson
Culbertson Bicentennial Park	Culbertson
Froid City Park	Froid
Medicine Lake Town Park	Medicine Lake
Medicine Lake Pool and Park	Medicine Lake

3.1.3 MT 16 – Medicine Lake to Plentywood

According to the Public Ownership map for the TRED Study Area (Appendix F), the MT 16 – Medicine Lake to Plentywood segment is predominantly privately owned. The Fork Peck Indian Reservation is generally located 1-3 miles west of the highway. There are a few scattered tracts of Montana State Trust Lands. There are a few tracts of Turtle Mountain Allotted Lands, which are tribal lands.

The 110-foot ROW overlay in Antelope shows some impact to residential areas. The residential neighborhoods of this community are located adjacent to the highway, and several residences would be impacted by roadway widening. Most of the structures appear to be set back far enough from the existing roadway that impacts to structures is not anticipated at this stage.

The 58-foot ROW overlay in Plentywood shows the most impact to residential and commercial areas. Several residential neighborhoods and commercial areas are located adjacent to the existing highway. It is difficult to assess at this stage whether any structures would be affected, but it is possible.

4(f) resources in this corridor segment are summarized in Table 4.

Table 4. 4(f) Resources within the MT 16 – Medicine Lake to Plentywood Segment

Name	Type of 4(f) Resource	Town (Specific Location Relative to Corridor)	Additional Information (Photo Reference)
Unnamed Playground at Mill Street	Park	Plentywood (Northeast corner of MT 16 and Mill Rd)	Observed in field - private or public status unclear (see Appendix A, photo 49)
Ball field complex	Park	Plentywood (Between Robert and Maple Streets, ¼ mile south of MT 16 at MP 42.25)	Observed in field (no photo available)

6(f) resources located in this corridor segment are summarized in Table 5.

Table 5. 6(f) Resources within the MT 16 – Medicine Lake to Plentywood Segment

Name	Town
Plentywood City Park (2 listings)	Plentywood

3.1.4 MT 16 – Plentywood to the Canadian Border

According to the Public Ownership map for the TRED Study Area (Appendix F), the MT 16 – Plentywood to the Canadian Border segment is predominantly privately owned. There are a few scattered tracts of Montana State Trust Lands.

The 58-foot ROW overlay in Plentywood shows the most impact to residential and commercial areas. The portion of this segment that travels north from the intersection with MT 5 mainly impacts commercial areas. Residential neighborhoods in this area are located off of the highway. It does not appear likely at this stage that any structures would be affected.

4(f) resources in this corridor segment are summarized in Table 6.

Table 6. 4(f) Resources within the MT 16 – Plentywood to the Canadian Border Segment

Name	Type of 4(f) Resource	Town (Specific Location Relative to Corridor)	Additional Information (Photo Reference)
Plentywood Golf Course	Park	Plentywood (East side of MT 16, approx. MP 0.5)	Observed in field (no photo available)
Raymond Grain Elevators Historic District	Historic Site – listed on NRHP	Raymond (Syme Ln, approx ¼ mile west of MT 16 at MP 7)	Listed 10/27/1993, NRHP Reference No. 93001148 (no photo available)

6(f) resources located in this corridor segment are summarized in Table 7.

Table 7. 6(f) Resources within the MT 16 – Plentywood to the Canadian Border Segment

Name	Town
Plentywood Golf Course	Plentywood

3.2 Geology and Soils

Information was obtained on geology and soils to determine the presence of prime farmland, geologic faults, and potential geologic hazard areas with regard to road-building in the corridor study areas.

Prime farmland soils are those that have the best combination of physical and chemical characteristics for producing food, feed, and forage; the area must also be available for these uses. Prime farmland can be either non-irrigated or lands that would be considered prime if irrigated. Federal programs are required to minimize the unnecessary and irreversible conversion of farmland to nonagricultural uses and should be compatible with policies to protect farmland.

Information regarding areas of prime farmland in the corridor area was compiled from the US Department of Agriculture, Natural Resource Conservation Service. Figures 3 through 6 depict prime farmland and general geologic features in the study corridor.

Available Geographic Information System (GIS) information was reviewed for fault lines and seismic hazard areas. This geologic information can help determine any potential design and construction issues related to embankments and bridge design. The following paragraphs describe the geologic and prime farmland soils findings for each segment of the corridor.

3.2.1 US 2 – North Dakota State Line to Culbertson

Geologic and prime farmland features for this segment are presented in Figure 3. Approximately half of the corridor in this segment passes through land designated as either Prime Farmland If Irrigated or Farmland of Statewide Importance. No fault lines are visible in this segment. It appears as though this segment passes through an area of low seismic hazard.

3.2.2 MT 16 – Culbertson to Medicine Lake

Geologic and prime farmland features for this segment are presented in Figures 4 and 5. There is virtually no land designated as either Prime Farmland If Irrigated or Farmland of Statewide Importance within a mile of MT 16 from Culbertson (approximate MP 88) to MP 72. The only exception in this area is a very small portion of Prime Farmland If Irrigated approximately 0.75 miles west of the highway at MP 84.5. The remainder of this segment, from MP 72 to MP 64 is almost entirely mapped in Prime Farmland If Irrigated and Farmland of Statewide Importance.
This segment passes through a fault line at approximately MP 72.25. This fault line runs in a northeast-southwest direction from south of Homestead Lake through the east side of Medicine Lake and beyond. No areas of seismic hazard are visible on the map in this segment.

3.2.3 MT 16 – Medicine Lake to Plentywood

Geologic and prime farmland features for this segment are presented in Figures 5 and 6. Approximately half of the corridor in this segment passes through land designated as either Prime Farmland If Irrigated or Farmland of Statewide Importance. No fault lines or seismic hazard areas are visible in this segment.

3.2.4 MT 16 – Plentywood to the Canadian Border

Geologic and prime farmland features for this segment are presented in Figure 6. Approximately half of the corridor in this segment passes through land designated as either Prime Farmland If Irrigated or

Farmland of Statewide Importance. No fault lines are visible in this segment. It appears as though this segment passes through an area of low seismic hazard.

3.3 Surface Water and Groundwater

Available GIS data were reviewed and field observations made to identify the location of surface water bodies within the corridor study area, including rivers, streams, lakes, or reservoirs.

Information on streams within the study area was obtained from the Montana Department of Environmental Quality (MDEQ). Section 303, subsection "d" of the Clean Water Act requires the State of Montana to develop a list, subject to U.S. Environmental Protection Agency (USEPA) approval, of water bodies that do not meet water quality standards. When water quality fails to meet state water quality standards, MDEQ determines the causes and sources of pollutants in a subbasin assessment and sets maximum pollutant levels, called total maximum daily loads (TMDL) (MDEQ, 2006).

The federal Corps of Engineers (COE) notes that that agency is responsible to review transportation projects to ensure compliance with the federal Clean Water Act. The agency has permitting authority whenever highway projects intersect wetlands under its jurisdiction, and provides coordinated review by the federal Fish and Wildlife Service and others. Generally, COE may elect to use a simpler, national permit if (a) FHWA finds the project is categorically excluded from detailed NEPA review, or (b) if no wetland fill is proposed that exceeds 0.50 acres. Alternatively, the COE conducts a project specific analysis, and evaluates alternatives against its own assessment of project purpose and needs to identify the least environmentally damaging practicable alternative. The COE commented, "If MDT ultimately submits an alternative other than the least damaging practicable alternative for a permit, denial is the likely outcome." Therefore, if an individual permit is required by the COE, it would be important for MDT, FHWA, and COE to coordinate on the purpose and need statement, the identification of alternatives carried forward for further review and selection of the preferred alternative to ensure compatibility of the National Environmental Policy Act and Clean Water Act documents.

A TMDL sets maximum pollutant levels in a watershed. The TMDLs become the basis for implementation plans to restore the water quality to a level that supports its designated beneficial uses. The implementation plans identify and describe pollutant controls and management measures to be undertaken (such as best management practices), the mechanisms by which the selected measures would be put into action, and the individuals and entities responsible for implementation projects. A TMDL has not yet been written for this watershed. When one is prepared and an implementation plan is in place, any construction practices would have to comply with the requirements set forth in the plan.

The study corridor travels through two watersheds:

- The Charlie-Little Muddy watershed (Hydrologic Unit Code: 10060005)
- The Big Muddy watershed (Hydrologic Unit Code: 10060006)

The Charlie-Little Muddy watershed is listed in the Final 2004 Integrated 303(d)/305(b) Report by MDEQ. The Charlie-Little Muddy watershed was listed as a Category 5 watershed, meaning that one or more applicable beneficial uses have been assessed as being impaired or threatened, and a TMDL is required to address the factors causing the impairment or threat. Beneficial uses that apply to this watershed include aquatic life, warm fisheries (non-salmonid), drinking water sources, recreation, agriculture, and industry. Probable causes of impairment include thermal modification and flow alteration by hydromodification and flow regulation/modification.

The Big Muddy watershed is also listed in the Final 2004 Integrated 303(d)/305(b) Report by MDEQ and is also listed as a Category 5 watershed. Beneficial uses that apply to this watershed include aquatic life, warm fisheries (non-salmonid), and recreation. Probable causes and sources of impairment are summarized in Table 8.

Table 8. 303(d) Listing Summary for the Big Muddy Watershed

Waterbody Segment	Probable Causes of Impairment	Probable Sources of Impairment
Big Muddy Creek from the northern Fort Peck Reservation boundary to the mouth (Missouri River)	• Siltation • Flow alteration • Other habitat alterations • Riparian degradation • Nutrients	• Agriculture • Grazing related sources • Flow regulation/modification • Hydromodification
Big Muddy Creek from Canada to the northern boundary of the Fort Peck Indian Reservation	• Nutrients • Organic enrichment/Low dissolved oxygen • Other habitat alterations • Riparian degradation • Metals • Copper • Lead • Mercury • Zinc	• Agriculture • Crop-related sources • Grazing related sources

River systems were also reviewed to determine 'Wild and Scenic' designation. The Wild and Scenic Rivers Act, created by Congress in 1968, provided for the protection of certain selected rivers, and their immediate environments, that possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values. The U.S. National Park Service (NPS) website was accessed for information on river segments that may be located within the study area with wild and scenic designation. No Wild and Scenic Rivers have been designated within the study corridor (NPS, 2006).

Public water supplies were researched via the Digital Atlas of Montana, by searching a 1 mile radius around the applicable highway (MNRIS, 2006). Public water supplies are researched in the environmental scan to identify areas where additional protection for drinking water supplies could be required during construction. Public water supplies will be discussed for each segment in the following sections.

A sole source aquifer is one that has been designated by the USEPA as the sole or principal source of drinking water for an area. As such, designated sole source aquifers receive special protection. No sole source aquifers have been designated anywhere in the study corridor (USEPA, 2006b).

3.3.1 US 2 – North Dakota State Line to Culbertson

Figure 7 presents surface water features in the US 2 North Dakota State Line to Culbertson segment. Table 9 summarizes GIS data and field observations made in this segment for regarding surface water resources.

Table 9. Surface Water in the US 2 - North Dakota State Line to Culbertson Segment

Approximate Milepost	Description
645-648	The highway crosses Clover Creek several times
646	Missouri River passes within approximately 1.5 miles south of US 2 in the town of Culbertson
649	Highway crossing of Little Muddy Creek from north
652	Highway crossing of Redbank Creek from north
655	Highway crossing of unnamed intermittent creek
657-659	Several meandering channels of Shotgun Creek on north side of highway, including at least 2 crossing the highway
659	Shotgun Creek crosses the highway several times and passes through the town of Bainville
659	Shotgun reservoir is located approximately 1.5 miles north of the highway
660	The highway crosses an unnamed intermittent creek, which then flows along the south side of the highway from approximately mileposts 660-661
661.5	Highway crossing of unnamed intermittent creek
663.5	Highway crossing of unnamed intermittent creek
664.5	Highway crossing of unnamed intermittent creek
666	Highway crossing of unnamed intermittent creek

This corridor segment is located in the Charlie-Little Muddy watershed (Hydrologic Unit Code: 10060005) (USEPA, 2006a). This watershed and its 303(d) listing status are discussed in Section 3.3.

Public water supplies found within one mile of this segment include the Town of Culbertson and the State Line Casino in Bainville. The information is summarized in Table 10.

Table 10. Public Water Supplies in the US 2 - North Dakota State Line to Culbertson Segment

Owner Name	Source Name	Source Type	City	Resident Population Served	Non-Res Population Served	PWS ID
Town of Culbertson	Plant Reservoir	Surface Water	Culbertson	796	0	MT0000192
Town of Culbertson	Missouri River	Surface Water	Culbertson	796	0	MT0000192
State Line Casino	Well #1	Groundwater	Bainville	0	30	MT0001640

3.3.2 MT 16 – Culbertson to Medicine Lake

Figures 8 and 9 present surface water features in the MT 16 – Culbertson to Medicine Lake segment. Table 11 summarizes GIS data and field observations made for this segment regarding surface water resources.

Table 11. Surface Water in the MT 16 – Culbertson to Medicine Lake Segment

Approximate Milepost	Description
83	Highway crossing of unnamed intermittent creek
76	Highway crossing of Sheep Creek, a tributary to Homestead Lake (part of Medicine Lake NWR)
73	Highway crossing of Lost Creek, a tributary to Homestead Lake (part of Medicine Lake NWR)
72	Highway crossing of McCabe Creek, a tributary to Lost Creek and Homestead Lake
71-69	Highway crosses several unnamed intermittent drainages
65.5	Highway crosses Medicine Lake (part of Medicine Lake NWR)

The first three miles approximately north of Culbertson are located within the Charlie-Little Muddy watershed. The remainder of this corridor segment is located in the Big Muddy watershed. These watersheds and their 303(d) listing status are discussed in Section 3.3.

Medicine Lake and its surrounding water impoundments are dependent on runoff provided from spring snowmelt and heavy summer thundershowers. The two main tributaries are Lake Creek to the northeast and Big Muddy Creek to the north. (USFWS, 1992)

Public water supplies found within one mile of this segment includes the Medicine Lake NWR. The information is summarized in Table 12.

Table 12. Public Water Supplies in the MT 16 – Culbertson to Medicine Lake Segment

Owner Name	Source Name	Source Type	City	Resident Population Served	Non-Res Population Served	PWS ID
Medicine Lake NWR	Well	Groundwater	Medicine Lake	7	50	MT0003713

3.3.3 MT 16 – Medicine Lake to Plentywood

Figures 9 and 10 present surface water features for the MT 16 – Medicine Lake to Plentywood segment. Table 13 summarizes GIS data and field observations made for this segment regarding water resources.

Table 13. Surface Water in the MT 16 – Medicine Lake to Plentywood Segment

Approximate Milepost	Description
63-47	Big Muddy Creek flows north-south within 1-2 miles west of highway. It serves as the Fort Peck Indian Reservation border in many areas
63-59	Highway crosses several unnamed intermittent drainages
60-53	Reserve Creek flows north-south within 0-1.5 miles west of highway
57-55	Highway crosses several unnamed intermittent drainages
51.5	Highway crossing of Antelope Creek
47	Highway crossing of unnamed intermittent creek
46.5	Highway crossing of Ator Creek
42	Highway crossing of unnamed intermittent drainage at Mill St.

This corridor segment is located in the Big Muddy watershed. This watershed and its 303(d) listing status are discussed in Section 3.3.

Public water supplies found within one mile of this segment are summarized in Table 14.

Table 14. Public Water Supplies in the MT 16 – Medicine Lake to Plentywood Segment

Owner Name	Source Name	Source Type	City	Resident Population Served	Non-Res Population Served	PWS ID
Reserve Bar	Well	Groundwater	Reserve	0	30	MT0002040
Antelope Water and Sewer	Well #1	Groundwater	Antelope	58	0	MT0003203
Antelope Water and Sewer	Well #2	Groundwater	Antelope	58	0	MT0003203
Plentywood Water Dept	Well #10	Groundwater	Plentywood	2,136	0	MT0000306
Plentywood Water Dept	Well #10a	Groundwater	Plentywood	2,136	0	MT0000306
Blue Moon	Well #1	Groundwater	Plentywood	0	150	MT0001664
Dr Debelle	Well #2	Groundwater	Plentywood	0	50	MT0001669
Zeidler Hardware	Northeast MT Water Cond	Purchased	Plentywood	0	50	MT0003680

3.3.4 MT 16 – Plentywood to the Canadian Border

Figure 10 presents surface water features in the MT 16 – Plentywood to the Canadian Border segment. Table 15 summarizes GIS data and field observations made for this segment regarding surface water resources.

Table 15. Surface Water in the MT 16 – Plentywood to the Canadian Border Segment

Approximate Milepost	Description
1	Box Elder Reservoir is 1 mile east of highway
2.5	Unnamed intermittent drainage on the east side of the highway
4	Highway crossing of unnamed intermittent drainage
5.5	Highway crossing of unnamed intermittent drainage
7	Highway crossing of McCoy Creek
7-12	Scattered medium to small intermittent and/or perennial surface water ponds (potholes) on both sides of highway, mainly on west side
12-15	Scattered small intermittent and/or perennial surface water ponds (potholes) on both sides of highway

This corridor segment is located in the Big Muddy watershed. This watershed and its 303(d) listing status are discussed in Section 3.3.

Public water supplies found within one mile of this segment are summarized in Table 16.

Table 16. Public Water Supplies in the MT 16 – Plentywood to the Canadian Border Segment

Owner Name	Source Name	Source Type	City	Resident Population Served	Non-Res Population Served	PWS ID
Raymond Border Sta	New Well #2	Groundwater	Raymond	14	25	MT0002767

3.4 Floodplains and Floodways

Floodplains are land areas adjacent to rivers and streams that are subject to recurring inundation. Because of their connection to river systems, floodplains often contain wetlands and other areas vital to a diverse and healthy ecosystem. The floodway is the channel of a river or watercourse and the adjacent land areas that must be reserved in order to discharge the 100-year flood without cumulatively increasing the water surface elevation more than one foot. Floodways are only delineated in communities where detailed hydraulic analyses have been completed. The floodway is contained within the floodplain.

Flood insurance rate maps (FIRMs) define the regulatory boundaries of floodplains along the rivers or streams where FIRM studies have been conducted. These flood insurance studies are maintained by the Federal Emergency Management Agency (FEMA) to determine the "existence and severity of flood hazards" and to help administer both the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973.

Federal laws regulating floodplain and flood impacts are contained within the National Flood Insurance Program (NFIP), a program managed by FEMA. Through the NFIP, FEMA has established minimum federal standards for floodplain regulation that are administered locally by cities and counties, with state oversight. Project related activities within the floodway would be required to demonstrate that any rise in the 100-year flood elevation following the project would be allowable under the NFIP.

Floodplain information was downloaded where available and used to identify mapped flood zones (Figures 7 through 10). GIS-based FEMA flood maps are available primarily along US 2 is association with the Missouri River. The study corridor passes through these flood zones near Culbertson (MP 645). MT-16 passes through a mapped flood zone just north of Culbertson near MP 88. This is likely a tributary to the Missouri River that passes through the area. MT-16 passes by, but does not cross, two mapped flood zones near the Town of Froid (MP 76 and MP 73). These flood zones are located on the west side of the highway, associated with Sheep Creek and Lost Creek, respectively. These creeks are tributaries to Homestead Lake.

The incorporated Town of Culbertson is not included in GIS-based FEMA flood mapping. A FIRM was downloaded from the FEMA map website (map 300067B, dated May 15, 1986) and reviewed for flood zones mapped within the study corridor as it passes through Culbertson (Appendix E). A floodplain (Flood Zone A) is mapped at the intersection of US 2 and MT 16 and surrounding areas. This floodplain continues north on MT 16 to the limits of Culbertson at 8th Street North and east on US 2 to 2nd Avenue East.

No FEMA floodplains are mapped in Sheridan County in or near the study corridor.

It should be noted that potential floodplains that were identified using FEMA maps are not intended to substitute for an extensive calculation of floodplain impacts. Potential floodplain impacts will have to be assessed prior to any construction along the highway corridor.

3.5 Wetlands

The U.S. Army Corps of Engineers defines wetlands as those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

USFWS defines wetland as 'lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or that land is covered by shallow water.' Wetlands must have one or more of the following three attributes:

- At least periodically, the land supports hydrophytes (a plant adapted to growing in or under the surface of water);
- The substrate is predominantly undrained hydric soil; and
- The substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year.

The U.S. Army Corps of Engineers requires that all three of the above attributes be present for an area to be considered a wetland, and for the wetland to by hydraulically connected to a Water of the US for it to be considered under the jurisdiction of Clean Water Act. This will be the definition with which future highway planning would be concerned. Digitally available wetlands maps, however, were only available at this planning stage from the USFWS, and therefore the USFWS definition of a wetland is applicable when referring to Figures 7 through 10 of this document.

The USFWS produces and provides information on the characteristics, extent, and status of the Nation's wetlands and deepwater habitats and other wildlife habitats, known as the National Wetland Inventory (NWI). NWI information was used in the study corridor to identify riverine and palustrine wetlands along the corridor. Riverine wetlands are associated with rivers and streams. Palustrine wetlands may be isolated or connected wet areas and include marshes, swamps, and bogs.

The study corridor is located within the highly productive prairie pothole region that extends from southern Canada through northeast Montana, the Dakotas, and western Minnesota. The region contains many thousands of small wetlands that produce over 50 percent of the waterfowl originating in the contiguous

United States. Marshes, shelterbelts, croplands, grasslands, and large water bodies provide both migration and nesting habitat for a vast array of wildlife. (USFWS, 1992)

The Northeastern Montana Wetlands Management District, managed by Medicine Lake NWR staff, consists of over 40 separate waterfowl production areas totaling in excess of 10,000 acres in a three-county area. These areas have been acquired and are intensively managed primarily for waterfowl production. An additional 7,500 privately-owned wetland acres within the district are also protected from burning, fill, and drainage by perpetual wetland easements with private landowners. (USFWS, 1992)

Drought occurs periodically in this region. This drying of wetland basins is important to maintain the productivity of the wetlands. Nutrients that are accumulated in dead plant matter decompose in the presence of oxygen and return to the soil. With the return of the wet cycle comes an increased growth of aquatic vegetation and invertebrates. (USFWS, 1992)

NWI maps were reviewed in conjunction with field reconnaissance conducted along the corridor. Field reconnaissance helped to confirm or deny the presence of NWI wetlands and identify some that were not mapped. Field reconnaissance for wetlands included observations from the roadway for vegetation, hydrology, and local topography. It should be noted that potential wetlands that were identified using NWI maps and windshield observations are not intended to substitute for wetland delineation. Wetland delineation will have to be conducted prior to any construction along the highway corridor.

3.5.1 US 2 – North Dakota State Line to Culbertson

A summary of wetlands identified through NWI maps and field observations for the US 2 – North Dakota State Line to Culbertson segment is presented in Table 17. Figure 7 presents wetlands mapped in this segment.

Table 17. Wetlands in the US 2 – North Dakota State Line to Culbertson Segment

Approximate Milepost	Description
648	An area on the north side of the highway mapped as wetlands
649-655	Large tracts of wetland areas are located on the south side of the highway, much associated with Clover Creek
650	A small mapped palustrine wetland area on the north side of the highway was not observed in the field
652-653	Some observed wet areas between the highway and the railroad (unmapped), in addition to riverine wetland areas on both sides of the highway
656-659	Scattered tracts of wetland areas within 1 mile of north side of highway
658.5-659	Large mapped wetland area on north side of highway
660-668	Many wetland areas associated with creeks and drainages
664.5	Wet ponded area (unmapped) observed on north side of highway
666	Wet area (unmapped) observed on north side of highway, and mapped wetland area observed on south side of highway

3.5.2 MT 16 – Culbertson to Medicine Lake

A summary of wetlands identified through NWI maps and field observations for the MT 16 – Culbertson to Medicine Lake segment is presented in Table 18. Figures 8 and 9 present wetlands mapped in this segment.

Table 18. Wetlands in the MT 16 – Culbertson to Medicine Lake Segment

Approximate Milepost	Description
88-84	Some small wetland areas associated with drainages
85-84	Wet area (unmapped) observed on east side of highway
84	Potential wet areas (unmapped) observed on both sides of highway associated with drainages
83	Wet areas (mapped and unmapped) observed crossing highway associated with a drainage
83-81	Scattered wetland areas within 1 mile of alignment
82-81.5	Mapped wetlands from west and along east side of highway not observed in field
79.5	Large wetland area approx. 1 mile east of highway
79	Wet area (unmapped) observed on east side of highway
78-77	Scattered wetland pothole areas within 1 mile of alignment
74	Wet area (unmapped) observed on west side of highway; feeds into mapped wetland area with duck boxes on east side of highway
72	Wet area (unmapped) observed crossing the highway toward Homestead Lake
71	Wet areas associated with small drainage on east side of highway
70.5	Wet area (unmapped) observed crossing the highway
65.5	Medicine Lake and associated wetland areas

3.5.3 MT 16 – Medicine Lake to Plentywood

A summary of wetlands identified through NWI maps and field observations for the MT 16 – Medicine Lake to Plentywood segment is presented in Table 19. Figures 9 and 10 present wetlands mapped in this segment.

Table 19. Wetlands in the MT 16 – Medicine Lake to Plentywood Segment

Approximate Milepost	Description
63-47	Wetland areas associated with Reserve and Big Muddy Creeks
62	Wet area (unmapped) observed crossing highway
60.5	Potential wet area (unmapped) observed crossing highway
60	Wet area (unmapped) observed on the west side of the highway
59.5	Potential wet area (unmapped) observed crossing highway
59	Small wetland area 0.5 mile west of highway
59-54	Few very small wetland pothole areas on east side of highway
53	Wet area associated with drainage from bluffs (unmapped) observed crossing highway
50-49	Few very small wetland pothole areas on east side of highway
48.5-48	Potential wet areas (unmapped) observed crossing highway
45	Mapped wetland area associated with drainage on east side of highway observed to extend to road (extended area unmapped)
42	Broad area of wetlands south of highway in Plentywood

3.5.4 MT 16 – Plentywood to the Canadian Border

A summary of wetlands identified through NWI maps and field observations for the MT 16 – Plentywood to the Canadian Border segment is presented in Table 20. Figure 10 presents wetlands mapped in this segment.

Table 20. Wetlands in the MT 16 – Plentywood to the Canadian Border Segment

Approximate Milepost	Description
2.5	Potential wet area (unmapped) observed on east side of highway
4	Potential wet areas (unmapped) observed crossing highway
1-6	Scattered pothole wetlands on both sides of the highway
4	Some wetland areas (unmapped) observed crossing highway
5.5	Some wetland areas crossing highway
11	Mapped wetland area on west side of highway is hayed
12	Mapped wetland area on west side of highway is hayed
7	Wetland crossing highway
7-12	Scattered medium to small pothole wetlands on both sides of highway, mainly on west side
12-15	Scattered small pothole wetlands on both sides of highway

3.6 Hazardous Waste Areas

USEPA and MDEQ maintain several searchable databases on their websites to determine the presence of hazardous waste sites or hazardous materials generators in a particular area. For this environmental scan, several databases were queried for Sheridan and Roosevelt counties. Databases researched included:

- USEPA National Priorities List (NPL) sites in Montana (USEPA, 2006c)
- USEPA Comprehensive Environmental Response, Compensation, and Liability Index System (CERCLIS) (USEPA, 2006d)
- USEPA Resource Conservation and Recovery Act (RCRA) – database "RCRA Info" (USEPA, 2006d)
- USEPA Toxics Release Inventory (TRI) (USEPA, 2006e)
- National Response Center (NRC) database of oil, chemical, radiological, and biological discharges to the environment (NRC, 2006)
- MDEQ query service for abandoned mines, leaking underground storage tanks (LUST), petroleum tank releases, and remediation response sites (MDEQ, 2006b)

The NPL and CERCLIS database searches returned no sites within the study corridor.

Several abandoned mine sites are located in Roosevelt and Sheridan Counties. However, the database does not provide specific location information. According to MDT, most of these sites are open cut permits for aggregate. GIS-based mine sites are mapped in Figure 16.

The information recovered from the remaining databases is summarized by segment in the following sections. Observations were also made during field reconnaissance activities to note those areas that may be hazardous. GIS-based hazardous waste site locations, such as LUST sites, remediation response sites, and Petroleum Tank Release Compensation Board (petroleum board) sites, are presented in Figures 11 through 14.

Field reconnaissance for hazardous materials included observations from the roadway for aboveground tanks, businesses that may use hazardous substances, and obvious hazardous conditions. It should be noted that potential hazardous materials that were identified using searchable databases and windshield observations are not intended to substitute for hazardous materials due diligence prior. Environmental site assessments will have to be conducted prior to any land acquisition along the highway corridor.

3.6.1 US 2 – North Dakota State Line to Culbertson

3.6.1.1 RCRA Info Database Search

Facilities identified in the RCRA Info database within the US 2 – North Dakota State Line to Culbertson segment are summarized in Table 21.

Table 21. RCRA Sites in the US 2 - North Dakota State Line to Culbertson Segment

Handler Name	City	Description
Arcus Transportation, Inc.	Culbertson	No information provided
Miller Oil Company	Culbertson	CESQG and Used Oil Program
Montola Growers, Inc.	Culbertson	CESQG, Major Air Emissions Reporter, TRI Reporter
Operational Maintenance Shop	Culbertson	CESQG, Underground Storage Tank Program
Phillips Petro Co Culbertson Compres	Culbertson	Natural Gas Liquid Extraction
Triple M Culbertson	Culbertson	Used Oil Program
Notes: CESQG = Conditional Exempt Small Quantity Generator		

3.6.1.2 TRI Database Search

Facilities identified in the TRI database within the US 2 – North Dakota State Line to Culbertson segment are summarized in Table 22.

Table 22. TRI Sites in the US 2 - North Dakota State Line to Culbertson Segment

Facility Name	City	Description
Montola Growers Inc.	Culbertson	Manufacturer of Shortening, Table Oils, Margarine, and Other Edible Fats And Oils Air Emitter of N-Hexane

3.6.1.3 NRC Database Search

Facilities identified in the NRC database within the US 2 – North Dakota State Line to Culbertson segment are summarized in Table 23.

Table 23. NRC Sites in the US 2 - North Dakota State Line to Culbertson Segment

Date	Suspected Responsible Party	City	Description
01/21/1994	True Oil	Culbertson	Hydrogen sulfide released to air due to pipeline leak
06/03/1997	Transmontaigne Pipeline Co	Bainville	499 gallons of sodium nitrate solution released to soil due to equipment failure
01/05/2000	Eott Energy	US 2 near Williston (MT side)	Crude oil released to asphalt due to leaking tanker truck; area sanded to prevent migration
05/04/2003	Burlington Northern Santa Fe (BNSF) Railroad	Bainville	Leaking locomotive spilled 250-400 gallons of diesel between Minot, ND and Bainville, MT

3.6.1.4 LUST Database Search

Facilities identified in the LUST database within the US 2 – North Dakota State Line to Culbertson segment are summarized in Table 24. Figure 11 presents tank leaks in this segment.

Table 24. LUST Sites in the US 2 - North Dakota State Line to Culbertson Segment

Site Name	City	Active?	Confirmed Release Date	Resolved Date
Bjorge Oil & Trucking	Bainville	Yes	6/23/1999	Unresolved
Scot & Diane Panasuk	Bainville	No	9/6/1996	10/7/1996
Anderson Conoco Culbertson	Culbertson	No	11/19/1990	2/7/1991
Culbertson School Dist 17	Culbertson	No	7/12/1991	10/31/1991
Culbertson School Dist 17 Armory	Culbertson	No	6/23/1998	7/7/1999
Johnsens Cafe & Convenience Store	Culbertson	No	3/28/1996	4/29/1996
L & R Stop N Shop	Culbertson	No	6/25/1990	8/27/1990
Miller Oil Co Culbertson	Culbertson	Yes	2/18/1997	Unresolved
Missouri Breaks Truck Stop	Culbertson	No	3/5/1999	2/24/2004
Organizational Maint Shop 2	Culbertson	No	5/8/1989	5/22/1991
Roosevelt County	Culbertson	No	10/12/1994	4/7/1997
Svo Specialty Products	Culbertson	Yes	8/24/1996	Unresolved
Svo Specialty Products	Culbertson	No	5/16/1991	11/1/1996

3.6.1.5 Petroleum Tank Release Compensation Sites Database Search

The 1989 Montana Legislature created the Montana Petroleum Tank Release Compensation Board and the Montana Petroleum Tank Release Cleanup Fund. In 1991 the Legislature expanded coverage to certain petroleum storage tanks which were excluded in the 1989 legislation. The Fund was created to assist owners and/or operators of underground petroleum storage tanks in cleaning up petroleum contamination and compensating third party damages resulting from releases. Facilities identified in the Petroleum Tank Release Compensation Sites database within the US 2 – North Dakota State Line to Culbertson segment are summarized in Table 25. Figure 11 presents petroleum board sites for this segment.

Table 25. Tank Release Sites in the US 2 - North Dakota State Line to Culbertson Segment

Facility Name	City	No. of Releases
The Welcome Stop	Bainville	1
SVO Specialty Products	Culbertson	1
L & R Stop & Shop	Culbertson	1

3.6.1.6 Remediation Response Sites Database Search

Facilities identified in the Remediation Response Sites database within the US 2 – North Dakota State Line to Culbertson segment are summarized in Table 26. Figure 11 presents remediation response sites for this segment.

Table 26. Remediation Sites in the US 2 - North Dakota State Line to Culbertson Segment

Site Name	City	Operation	Description
Burlington Northern Derailment Site Bainville	Bainville	Derailment occurred 09/28/80	Former train derailment/spill site

3.6.1.7 Field Observations

Observations made along the US 2 – North Dakota State Line to Culbertson segment regarding potential hazardous materials areas are summarized in Table 27.

Table 27. Hazardous Materials Observations in the US 2 - North Dakota State Line to Culbertson Segment

Approximate Milepost	Description
661-660	Scattered tank sites, a tank farm, and oil pumping and storage site (contents of tanks unknown, but assumed to be crude oil)
659	Observed “Welcome Stop” site, found in petroleum tank release compensation site database searches
657.5	Observed aboveground tanks on south side of road
653.5	Tank farm on south side of road, surrounded by mapped wetlands (hayed) (contents of tank unknown, but assumed to be crude oil)
646	Traction sand stockpile area
645.5	Montola Growers Inc., Custom Built Feeds, found in RCRA and TRI databases
644.5	Sinclair and Exxon (Oelker’s) on SW and SE corners of intersection

3.6.2 MT 16 – Culbertson to Medicine Lake

3.6.2.1 RCRA Info Database Search

Facilities identified in the RCRA Info database within the MT 16 – Culbertson to Medicine Lake segment are summarized in Table 28.

Table 28. RCRA Sites in the MT 16 – Culbertson to Medicine Lake Segment

Handler Name	City	Description
Koch-Krogedahl Station	Froid	Natural Gas Liquid Extraction, Minor Air Emissions Reporter
Medicine Lake Station	Medicine Lake	Natural Gas Liquid Extraction
Herman Oil Inc	Medicine Lake	CESQG
Notes: CESQG = Conditional Exempt Small Quantity Generator		

3.6.2.2 TRI Database Search

No facilities were identified in the TRI database within the MT 16 – Culbertson to Medicine Lake segment.

3.6.2.3 NRC Database Search

Facilities identified in the NRC database within the MT 16 – Culbertson to Medicine Lake segment are summarized in Table 29.

Table 29. NRC Sites in the MT 16 – Culbertson to Medicine Lake Segment

Date	Suspected Responsible Party	City	Description
01/04/1996	True Oil	Culbertson	Hydrogen sulfide released to air due to equipment failure

3.6.2.4 LUST Database Search

Facilities identified in the LUST database within the MT 16 – Culbertson to Medicine Lake segment are summarized in Table 30. Figures 12 and 13 present tank leaks for this segment.

Table 30. LUST Sites in the MT 16 – Culbertson to Medicine Lake Segment

Site Name	City	Active?	Confirmed Release Date	Resolved Date
USDA Ars Ag Research Service	Culbertson	No	8/2/1991	10/4/1991
Davidson Oil Co	Froid	No	7/12/1991	7/7/1992
Farmers Union Oil Co Froid	Froid	No	2/14/1991	1/28/1997
Froid School Teacherage	Froid	No	11/4/1996	9/30/1997
Mark B & Mary Linda Rudolph	Froid	No	10/4/1993	11/9/1993
Roosevelt County	Froid	No	10/12/1994	12/4/1995
Herman Oil Inc Medicine Lake	Medicine Lake	Yes	10/14/1997	unresolved
Medicine Lake NWR 4602269	Medicine Lake	No	8/15/1994	2/23/1998

3.6.2.5 Petroleum Tank Release Compensation Sites Database Search

No facilities were identified in the Petroleum Tank Release Compensation Sites database within the MT 16 – Culbertson to Medicine Lake segment (Figures 12 and 13).

3.6.2.6 Remediation Response Sites Database Search

Facilities identified in the Remediation Response Sites database within the MT 16 – Culbertson to Medicine Lake segment are summarized in Table 31. Remediation response sites in this segment are presented in Figures 12 and 13.

Table 31. Remediation Sites in the MT 16 – Culbertson to Medicine Lake Segment

Site Name	City	Operation	Description
Koch Hydrocarbon Co Krogadahl Station	Froid	Oil and gas production	LNAPL in 176-ft well.
Medicine Lake NWR	Medicine Lake		No information listed in database

3.6.2.7 Field Observations

Observations made along the MT 16 – Culbertson to Medicine Lake segment regarding potential hazardous materials areas are summarized in Table 32.

Table 32. Hazardous Materials Observations in the MT 16 – Culbertson to Medicine Lake Segment

Approximate Milepost	Description
82	Gas pipeline running northwest/southeast
82	MDT maintenance facility with snow blades, etc. with ASTs, ½ mile east of highway
81	Large aboveground storage tank (AST) observed approx. 0.4 miles west of highway
78	Junk/debris, old structures observed on west side of highway
76	Traction sand stockpile observed on west side of highway
76	Lagoons observed on west side of highway
76.25	Lodahl Farm and Auto Repair in Froid
69.5	Elevated AST's (assumed to be heating oil) observed on west side of highway
64.5	Automotive machine shop observed on west side of highway
64	Herman Oil site observed; listed in LUST database
64	Electric Co-op observed
64	Junkyard observed on east side of highway

3.6.3 MT 16 – Medicine Lake to Plentywood

3.6.3.1 RCRA Info Database Search

Facilities identified in the RCRA Info database within the MT 16 – Medicine Lake to Plentywood segment are summarized in Table 33.

Table 33. RCRA Sites in the MT 16 – Medicine Lake to Plentywood Segment

Handler Name	City	Description
Farmers Union Oil Company	Plentywood	CESQG, Underground Storage Tank Program
Steward and Stevenson	Plentywood	CESQG
Sunmark Expl Co Anderson 1406456	N. of Medicine Lake (MP 61)	No information provided
Triple M	Plentywood	CESQG, Used Oil Program, Underground Storage Tank Program
Notes: CESQG = Conditional Exempt Small Quantity Generator		

3.6.3.2 TRI Database Search

No facilities were identified in the TRI database within the MT 16 – Medicine Lake to Plentywood segment.

3.6.3.3 NRC Database Search

Facilities identified in the NRC database within the MT 16 – Medicine Lake to Plentywood segment are summarized in Table 34.

Table 34. NRC Sites in the MT 16 – Medicine Lake to Plentywood Segment

Date	Suspected Responsible Party	City	Description
09/23/1994	Power Fuels	MT 16, 3 miles north of Medicine Lake	250 barrels of crude oil released to drainage channel to Big Muddy Creek due to tanker spill; berm was built to contain spill
06/25/1998	Portal Pipeline	Reserve	100 barrels of crude oil released due to overfilling of AST; all material contained in tank dike

3.6.3.4 LUST Database Search

Facilities identified in the LUST database within the MT 16 – Medicine Lake to Plentywood segment are summarized in Table 35. Tank leaks for this segment are presented in Figures 13 and 14.

Table 35. LUST Sites in the MT 16 – Medicine Lake to Plentywood Segment

Site Name	City	Active?	Confirmed Release Date	Resolved Date
J & M Service	Reserve	No	6/28/1991	11/17/1992
Alfred K Tange	Plentywood	No	8/12/1992	8/19/1992
Alvin Newmnam	Plentywood	No	11/5/1993	2/8/1994
Auto Tech Services	Plentywood	No	9/10/2000	12/27/2000
Ben Franklin Store Mirps Inc	Plentywood	No	10/1/1996	10/8/1996

Site Name	City	Active?	Confirmed Release Date	Resolved Date
Billie C Hibbert	Plentywood	No	2/27/1992	4/23/1992
Charles Fay Chandler Sr	Plentywood	No	7/25/1993	9/10/1996
David G & Jane A Fulkerson	Plentywood	No	4/24/1990	5/14/1990
Donald Bolke Residence	Plentywood	Yes	6/3/1999	Not resolved
Dorothy Brockmier	Plentywood	No	12/8/1992	2/18/1993
Ernest Berland	Plentywood	No	7/11/1994	11/27/2000
Farmers Union Oil Co Plentywood	Plentywood	No	8/22/1996	9/30/1996
Farmers Union Oil Co Plentywood	Plentywood	No	1/23/1997	8/14/1997
Former Peterson Hardware	Plentywood	No	6/18/1997	7/22/1997
Gordon Overby	Plentywood	No	9/28/1993	10/29/1993
Harvey Carpenter	Plentywood	No	9/17/1990	10/24/1990
James Kisler	Plentywood	No	12/5/1991	1/16/1992
Kenneth D Collins Agency	Plentywood	No	11/8/1993	11/30/1993
Mary Johnson	Plentywood	No	9/28/1992	10/16/1992
Merlin Andersen	Plentywood	No	12/30/1991	5/8/1992
Miller Oil Co E Railroad Ave	Plentywood	Yes	11/4/2003	Not resolved
Montana Pioneer Manor Inc	Plentywood	No	5/9/1996	10/14/1998
Oddlaug Williams	Plentywood	No	12/19/1991	7/7/1992
Peavey Co Plentywood	Plentywood	No	11/27/1990	5/3/1991
Petersons Ready To Wear	Plentywood	No	8/28/1990	9/19/1990
Plentywood School Dist 20	Plentywood	No	9/14/1989	11/30/1990
Plw Enterprises	Plentywood	No	8/24/1993	10/6/1995
Rice Oil Co	Plentywood	No	12/23/1993	2/24/1994
Shackelford	Plentywood	No	10/11/1991	7/7/1992
Triple M Oil	Plentywood	No	7/28/2000	10/5/2000
Western Implement	Plentywood	No	10/16/1991	8/21/1996
Williston Scobey Transfer Plentywood	Plentywood	No	9/26/1990	8/31/1992

3.6.3.5 Petroleum Tank Release Compensation Sites Database Search

Facilities identified in the Petroleum Tank Release Compensation Sites database within the MT 16 – Medicine Lake to Plentywood segment are summarized in Table 36. Petroleum board sites in this segment are presented in Figures 13 and 14.

Table 36. Tank Release Sites in the MT 16 – Medicine Lake to Plentywood Segment

Facility Name	City	No. of Releases
PLW Enterprises	Plentywood	1
Auto Tech Services	Plentywood	1
Williston Scobey Transfer Plentywood	Plentywood	1
Triple M Oil	Plentywood	1
Shackelford	Plentywood	1
Peavey Co.	Plentywood	1

3.6.3.6 Remediation Response Sites Database Search

Facilities identified in the Remediation Response Sites database within the MT 16 – Medicine Lake to Plentywood segment are summarized in Table 37. Remediation response sites for this segment are presented in Figures 13 and 14.

Table 37. Remediation Sites in the MT 16 – Medicine Lake to Plentywood Segment

Site Name	City	Operation	Description
Bolke Residence	Plentywood		Private residence. non-regulated heating oil tank spill.

3.6.3.7 Field Observations

Observations made along the MT 16 – Medicine Lake to Plentywood segment regarding potential hazardous materials areas are summarized in Table 38.

Table 38. Hazardous Materials Observations in the MT 16 – Medicine Lake to Plentywood Segment

Approximate Milepost	Description
62	Sludge pond and 10 ASTs observed on west side of highway
59	Oil ASTs observed on west side of highway (assumed to be crude oil)
57	Tank farm observed on east side of highway (contents unknown but assumed to be crude oil)
50	Auto body shop observed in Antelope on east side of highway
44.5	Columbia Grain - grain elevator observed on west side of highway
42.1	Tank leak and petroleum board site mapped in Plentywood at corner of Broadmore St. not observed

Approximate Milepost	Description
42	Miller Oil Company (gas and oil) observed in Plentywood at Monroe St.
41.9	Kum and Go gas station observed in Plentywood at Adams St.
41.7	Curtiss Farm and Auto (CarQuest) observed in Plentywood at Jackson St.
41.7	Prairie Automotive observed in Plentywood at 122 1st Ave (MT 16)
41.7	Sheridan Sheet Metal Heating observed in Plentywood at 116 1st Ave
41.6	Supervalu observed in Plentywood at Main
41.6	Northern Wheel Alignment Service observed in Plentywood (S. Jefferson)
41.6	Old Exxon observed in Plentywood at Jefferson
41.3	MDT maintenance facility observed at southeast corner of MT 16 and MT 5

3.6.4 MT 16 – Plentywood to the Canadian Border

3.6.4.1 RCRA Info Database Search

No facilities were identified in the RCRA Info database within the MT 16 – Plentywood to the Canadian Border segment.

3.6.4.2 TRI Database Search

No facilities were identified in the TRI database within the MT 16 – Plentywood to the Canadian Border segment.

3.6.4.3 NRC Database Search

No facilities were identified in the NRC database within the MT 16 – Plentywood to the Canadian Border segment.

3.6.4.4 LUST Database Search

Facilities identified in the LUST database within the MT 16 – Plentywood to the Canadian Border segment are summarized in Table 39. Tank leaks in this segment are presented in Figure 14.

Table 39. LUST Sites in the MT 16 –Plentywood to the Canadian Border Segment

Site Name	City	Active?	Confirmed Release Date	Resolved Date
Border Port of Entry	Raymond	No	10/30/1996	1/16/1997

3.6.4.5 Petroleum Tank Release Compensation Sites Database Search

No facilities were identified in the Petroleum Tank Release Compensation Sites database within the MT 16 – Plentywood to the Canadian Border segment (Figure 14).

3.6.4.6 Remediation Response Sites Database Search

No facilities were identified in the Remediation Response Sites database within the MT 16 – Plentywood to the Canadian Border segment (Figure 14).

3.6.4.7 Field Observations

Observations made along the MT 16 – Plentywood to the Canadian Border segment regarding potential hazardous materials areas are summarized in Table 40.

Table 40. Hazardous Materials Observations in the MT 16 – Plentywood to the Canadian Border Segment

Approximate Milepost	Description
0.0	Cooper Tire observed in Plentywood (northeast corner of MT 16 and MT 5)
0.0	Welding shop observed in Plentywood (northwest corner of MT 16 and MT 5)
0.1	CanAm Convenience Store and Gas observed in Plentywood (west side of 16)
0.2	Homeland Security building observed in Plentywood on west side of highway

4 Biological Resources

Available information was reviewed to identify potential wildlife resources within the corridor study area, including the federal lists of threatened and endangered species and state lists of species of concern. Because biological resources tend to encompass more regional areas, and the study corridor exhibits many of the same types of habitat throughout with a few exceptions, this section is organized by types of biological resources rather than by study corridor segments. These discussions are then broken down by what is expected to occur in each of Roosevelt and Sheridan counties, as species information is typically grouped by county. The study corridor segments are summarized by county in Table 41.

Table 41. Study Corridor Segments by County

County	Segments Located within County
Roosevelt	US 2 – North Dakota to Culbertson (ALL) MT 16 – Culbertson to Medicine Lake (MP 88.5-72)
Sheridan	MT 16 – Culbertson to Medicine Lake (MP 72-64) MT 16 – Medicine Lake to Plentywood (ALL) MT 16 – Plentywood to Canadian Border (ALL)

Field reconnaissance for biological resources included observations from the roadway for signage indicating wildlife crossings, constructed habitat such as bird boxes, and direct wildlife observations. It should be noted that potential biological resources that were identified using available MFWP data and windshield observations are not intended to substitute for an extensive biological evaluation. Wetland Consultation with USFWS will have to be conducted prior to any construction along the highway corridor and will likely result in the preparation of a biological assessment.

4.1 Fish and Wildlife

The study corridor lies within plains grassland habitat. Antelope and mule deer inhabit the open and rougher terrain. White-tailed deer are found along rivers and streams. The productive Prairie Pothole region produces thousands of ducks and geese. Pheasants are found in agricultural areas, and native sharp-tailed and sage grouse are plentiful in grassy and prairie habitat. The Missouri River is host to a wide variety of fish, including brown trout, whitefish, northern pike, rainbow trout, sturgeon, and yellow perch.

According to available GIS data, the entire study corridor falls within white tail deer range, antelope range, and Hungarian partridge range. Various portions of the study corridor fall within pheasant habitat. Sharp-tail grouse ranges through most of the corridor, except for areas just north and east of Culbertson. Turkey range is near, but not inside of the study corridor, being mainly associated with the Missouri River south of Culbertson. Signs of wildlife observed in the field are summarized in Table 42.

Table 42. Signs of Wildlife in the Study Corridor Observed in the Field

Approximate Milepost	Description
MT-16, MP 84	Deer crossing sign, southbound
MT-16, MP 74	Duck boxes observed in mapped wetland areas on east side of highway
MT-16, MP 67	Deer crossing sign, northbound

4.1.1 Threatened and Endangered Species

The federal list of endangered and threatened species is maintained by the USFWS. Species on this list receive protection under the Endangered Species Act (ESA). An 'endangered' species is one that is in danger of extinction throughout all or a significant portion of its range. A 'threatened' species is one that is likely to become endangered in the foreseeable future. The USFWS also maintains a list of species that are candidates or proposed for possible addition to the federal list.

The endangered, threatened, proposed, and candidate species list for Montana counties was downloaded from the USFWS website on August 29, 2006 (Appendix D). This list generally identifies the counties where one would reasonably expect the species to occur, not necessarily every county where the species is listed.

4.1.1.1 Roosevelt County

Federally listed endangered, threatened, proposed, and candidate species for Roosevelt County are summarized in Table 43.

Table 43. Federally Listed ESA Species on Roosevelt County

Scientific Name	Common Name	Status
Scaphirhynchus albus	Pallid Sturgeon	Listed Endangered
Haliaeetus leucocephalus	Bald Eagle	Listed Threatened
Charadrius melodus	Piping Plover	Listed Threatened Critical Habitat Designated
Sterna antillarum athalassos	Interior Least Tern	Listed Endangered
Grus Americana	Whooping Crane	Listed Endangered

The pallid sturgeon is the larger of the two species of sturgeon found east of the Continental Divide. In Montana, pallid sturgeon use large turbid streams including the Missouri and Yellowstone rivers. One of the most obvious detrimental changes in the pallid sturgeon environment was the damming of the Missouri River and several other important tributaries. While the Missouri River is generally over a mile from the study corridor, upstream and nearby land use practices may degrade water quality. (MFWP, 2006b)

The bald eagle is second in size of North American birds of prey only to the California Condor. The majority of birds nesting in Montana are found in the western third of the state; although breeding pairs may be found along many of the major rivers and lakes in the central portion of the state and along the Yellowstone and Missouri Rivers to the eastern prairie lands. East of the Continental Divide, the presence of bald eagles may be somewhat more seasonally dependent than in the western part of the state, for migrants from more northerly climes travel through Montana to reach their wintering grounds further south. Important year-round habitat includes wetlands, major water bodies, spring spawning streams, ungulate winter ranges and open water areas. (MFWP, 2006b) Occurrence of the bald eagle in the study corridor is possible, particularly during periods of seasonal migration in the spring and fall.

Piping Plovers are limited to the open shorelines of freshwater or alkaline lakes, reservoirs, rivers, or wetlands. The piping plover is generally a species of northern and northeastern Montana. This species is known to breed in Medicine Lake NWR, Sheridan County, and the Missouri River below Fort Peck Dam. The Piping Plover usually arrives in Montana in early May and leaves the state by late August. Most of the observations reported in the state are for breeding individuals, or for activity that suggests breeding. (MFWP, 2006b) Its seasonal presence on the Missouri River may indicate that construction windows could be imposed upon the US 2 – North Dakota State Line to Culbertson corridor segment.

Piping Plovers primarily select unvegetated sand or pebble beaches on shorelines or islands in freshwater and saline wetlands. Vegetation, if present at all, consists of sparse, scattered clumps. Open shorelines and sandbars of rivers and large reservoirs in the eastern and north-central portions of the state provide prime breeding habitat. The alkali wetlands and lakes found in the northeastern corner of the state generally contain wide, unvegetated, gravelly, salt-encrusted beaches. Four specific geographic areas, recognized as providing critically important habitat and identified as essential for the conservation of the piping plover, have been designated as "Critical Habitat Units" in Montana. The designation of critical habitat may require federal agencies to develop special management actions affecting these sites. Unit 2 is identified as riverine habitat and includes the Missouri River just south of Wolf Point to the state line, encompassing habitat provided by the sparsely vegetated sandbars, and sandy or gravelly beaches along this stretch of the river. (MFWP, 2006b)

The interior least tern has similar habitat characteristics to the piping plover. The species breeds along the lower portions of the Missouri River below Fort Peck Dam, on the beaches of Fort Peck Reservoir, and on the Yellowstone River below Glendive. Most of the observations in the state have been recorded for breeding pairs, with few reported sightings of transient individuals. Spring arrival of the species occurs in mid-May, with departure in the fall generally occurring by mid-August. (MFWP, 2006b) Its seasonal presence on the Missouri River may indicate that construction windows could be imposed upon the US 2 – North Dakota to Culbertson corridor segment. Interior Least Terns nest on unvegetated sand-pebble beaches and islands of large reservoirs and rivers in northeastern and southeastern Montana, specifically the Yellowstone and Missouri river systems. These wide, open river channels, and lake and pothole shorelines provide the preferred characteristics for nesting terns. (MFWP, 2006b)

The whooping crane is the tallest bird of North America, reaching nearly five feet in height. Transient individual whooping cranes have been reported throughout the eastern portions of the state, with most of those records for Sheridan (Medicine Lake NWR) and Roosevelt counties. For the past 20 years, observations have been restricted to the northeast corner of the state. The birds observed in the eastern corner of Montana are occasional migrants traveling through from the Arkansas population on journey to the breeding grounds in Alberta and the Northwest Territories. The whooping crane is known to fly through Montana during both spring and fall migration. The whooping crane has been observed in the marsh habitat present at Medicine Lake NWR. Observations of individual birds in other areas of the state include grain and stubble fields as well as wet meadows, wet prairie habitat, and freshwater marshes that are usually shallow and broad with safe roosting sites and nearby foraging opportunities. The whooping crane is not known to breed in the state. (MFWP, 2006b) The whooping crane could occur in the study corridor in Roosevelt County in grain and stubble fields and prairie wetland areas.

4.1.1.2 Sheridan County

Federally listed endangered, threatened, proposed, and candidate species for Sheridan County are summarized in Table 44.

Table 44. Federally Listed ESA Species in Sheridan County

Scientific Name	Common Name	Status
Haliaeetus leucocephalus	Bald Eagle	Listed Threatened
Charadrius melodus	Piping Plover	Listed Threatened Critical Habitat Designated
Grus Americana	Whooping Crane	Listed Endangered

See Section 4.1.1.1 for descriptions of these species. Occurrence of the bald eagle in the study corridor in Sheridan County is unlikely but possible. According to a brochure obtained from the Medicine Lake NWR, the refuge is located in the migrational corridor for bald eagles and that this rare species make occasional visits in the spring and fall (USFWS, 1992).

According to a Medicine Lake NWR brochure dated in 1992, the refuge supports an active breeding population of endangered piping plovers. Up to 30 pairs of the bird had nested on the refuge in years leading up to publishing of the brochure. (USFWS, 1992) The first unit of designated critical habitat for the piping plover, Unit 1, contains alkali lake and wetland habitat found in Sheridan County. (MFWP, 2006b) Therefore, any wetland habitat in the study corridor, in Sheridan County could be considered critical habitat for piping plover.

The whooping crane has been observed in the marsh habitat present at Medicine Lake NWR. Observations of individual birds in other areas of the state include grain and stubble fields as well as wet meadows, wet prairie habitat, and freshwater marshes that are usually shallow and broad with safe roosting sites and nearby foraging opportunities. The whooping crane is not known to breed in the state. (MFWP, 2006b) According to a brochure obtained from the Medicine Lake NWR, the refuge is located in the migrational corridor for whooping cranes and that this rare species make occasional visits in the spring and fall (USFWS, 1992).

4.1.2 Species of Concern

Montana Species of Concern are native animals breeding in the state that are considered to be “at risk” due to declining population trends, threats to their habitats, and/or restricted distribution. Designation of a species as a Montana Animal Species of Concern is not a statutory or regulatory classification. Instead, these designations provide a basis for resource managers and decision-makers to direct limited resources to priority data collection needs and address conservation needs proactively. Each species is assigned a state rank that ranges from S1 (greatest concern) to S5 (least concern). Other state ranks include SU (unrankable due to insufficient information), SH (historically occurred), and SX (believed to be extinct). State ranks may be followed by modifiers, such as B (breeding) or N (nonbreeding).

The potential presence of each Species of Concern within the study corridor was determined by range maps and/or descriptions provided for each species. Table 45 provides a summary of Species of Concern that are thought to range in northeastern Montana. Figure 17 presents the number of species of concern present within each square mile in and near the study corridor.

Table 45. Animal Species of Concern Ranging in Northeastern Montana

Species Common Name	State Rank	Typical Habitat
Amphibians		
Great Plains Toad	S2	wetlands, floodplain pools
Northern Leopard Frog	S3	wetlands, floodplain pools
Plains Spadefoot	S3	wetlands, floodplain pools
Birds		
Alder Flycatcher	S1B	wetlands/shrublands
American White Pelican	S3B	lakes
Baird's Sparrow	S2B	grasslands
Bald Eagle	S3	riparian forest
Black Tern	S3B	wetlands
Black-and-white Warbler	S2S3B	deciduous forests
Black-crowned Night-heron	S3B	wetland/lake with emergent vegetation
Bobolink	S2B	moist grassland
Burrowing Owl	S2B	grasslands
Caspian Tern	S2B	large rivers and lakes
Chestnut-collared Longspur	S3B	grasslands
Common Loon	S2B	mountain lakes with emergent vegetation
Common Tern	S3B	large rivers and lakes
Eastern Bluebird	S2B	prairie woodlands
Ferruginous Hawk	S2B	sagebrush/grasslands
Forster's Tern	S2B	wetlands
Franklin's Gull	S3B	wetland/lake with emergent vegetation
Grasshopper Sparrow	S3B	grasslands
Greater Sage-grouse	S3	sagebrush
Interior Least Tern	S1B	large prairie rivers
Lark Bunting	S3B	sagebrush/grasslands
LeConte's Sparrow	S1S2B	prairie wetlands
Loggerhead Shrike	S3B	shrublands
Long-billed Curlew	S2B	grasslands
McCown's Longspur	S2B	grasslands
Northern Goshawk	S3	mixed conifer forest
Olive-side Flycatcher	S3B	early seral forest/shrub patches
Peregrine Falcon	S2B	cliffs
Piping Plover	S2B	prairie lake and river shoreline
Red-headed Woodpecker	S3B	riparian forest
Sedge Wren	S1B	prairie wetlands
Sprague's Pipit	S2B	grasslands
Swainson's Hawk	S3B	sage/grassland with woody vegetation
White-faced Ibis	S1B	wetland/lake with emergent vegetation
Yellow Rail	S1B	wetlands
Fish		
Blue Sucker	S2S3	large prairie rivers
Paddlefish	S1S2	large prairie rivers
Pallid Sturgeon	S1	large prairie rivers
Pearl Dace	S2	small prairie streams
Sauger	S2	large prairie rivers
Sicklefin Chub	S1	large prairie rivers
Sturgeon Chub	S2	large prairie rivers
Mammals		

Species Common Name	State Rank	Typical Habitat
Arctic Shrew	S1S3	wetlands
Black-tailed Prairie Dog	S3	grasslands
Preble's Shrew	S3	sagebrush/grasslands
Townsend's Big-eared Bat	S2	caves in forested habitats
Reptiles		
Greater Short-horned Lizard	S3	sandy/gravelly soils
Sagebrush Lizard	S3	rock outcrops
Smooth Green Snake	S2	wetlands
Western Hognose Snake	S2	floodplain friable soils

4.1.3 National Wildlife Refuges

The study corridor passes through the Medicine Lake National NWR. This refuge lies within the highly productive prairie pothole region that extends from southern Canada through northeast Montana, the Dakotas, and western Minnesota. The region contains many thousands of small wetlands that produce over 50 percent of the waterfowl originating in the contiguous United States. Medicine Lake NWR lies in the mixed grass and short grass prairie transition zone. Marshes, shelterbelts, croplands, grasslands, and large water bodies provide both migration and nesting habitat for a vast array of wildlife. Improvements to the roadway that would widen or realign it through the Medicine Lake NWR would likely affect adjacent habitats. Pursuant to section 4(f) of the U.S. Department of Transportation Act of 1966, the U.S. Fish and Wildlife Service notes that coordination with Refuge staff would be required relative to these concerns and others that may become apparent if a project is proposed for this stretch of highway.

The refuge was established in 1935 and today consists of two units comprising 31,457 acres. The north unit contains the 8,700-acre Medicine Lake as wells as eight other small lakes. The Homestead Unit consists of the 1,280-acre Homestead Lake and adjacent uplands. The 11,360-acre Medicine Lake Wilderness Area was established by Congress in 1976. this area includes the main water body of the lake and the islands within. Also included is the 2,320-acre Sandhills Unit with its unique rolling hills, native grass, cactus, and clumps of chokecherry, buffalo berry, and buck brush.

Restoration of breeding population of Great Basin Canada geese was initiated in 1938 and supplemented with releases of additional birds up to 1957. By 1992, the resident refuge population of Canada geese was in excess of 1,000 birds with annual production of about 900 goslings.

Marsh and water areas of the refuge attract up to a quarter-million waterfowl during the spring and fall migration. Some of these species remain to nest on the refuge and produce up to 30,000 ducklings each year.

The refuge has one of the largest white pelican rookeries left in the United States. Over 2,000 pelicans are generally produced each year. The refuge islands provide secure nesting sites for other colonial nesters, including double-crested cormorants, California and ring-bills gulls, and great blue herons. Grebes, and many other marsh and shore birds nest in the vegetation and on the shoreline of the lakes.

Thousands of sandhill cranes arrive in the vicinity of the refuge for a short stop on their way south each October. The refuge is located in the migrational corridor of the endangered whooping crane, bald eagle, and peregrine falcon. The refuge also supports an active breeding population of endangered piping plovers.

Ring-necked pheasants are commonly seen along the refuge tour route. Pheasants find the heavy grass, alfalfa, and grain mixture (which is seeded for waterfowl nesting cover) to their liking. These stands of seeded grass also attract one of the largest white-tailed deer populations in northeast Montana.

The prairie grasslands are habitat for many prairie birds that are Montana Species of Concern, including burrowing owls, lark bunting, Baird's and LeConte's sparrows, chestnut-collared and McCown's longspurs, and occasionally the Sprague's pipit. Prairie grasslands are also home to short-eared owls and sharp-tailed grouse.

Neighboring farmers grow grain crops on designated refuge acres each year. The refuge share, approximately 25 percent, is left standing to provide food sources for many species of wildlife. (USFWS, 1992)

4.1.4 Block Management Areas

There are several BMAs located throughout the study corridor. Block Management is a cooperative effort between MFWP, private landowners, and public land management agencies to help landowners manage hunting activities and provide free public hunting access to private and isolated public lands. BMA cooperators receive benefits for providing free public hunting under certain terms. Each BMA is unique, and they range in size from 50 to more than 100,000 acres. The program is funded by portions of various license fees.

4.2 Vegetation

4.2.1 Threatened and Endangered Species

The federal list of endangered and threatened species is maintained by the USFWS. Species on this list receive protection under the ESA. The endangered, threatened, proposed, and candidate species list for Montana counties was downloaded from the USFWS website on August 29, 2006 (Appendix D). This list generally identifies the counties where one would reasonably expect the species to occur, not necessarily every county where the species is listed. No vegetative species were listed for Roosevelt or Sheridan counties.

4.2.2 Species of Concern

The Montana Natural Heritage Program serves as the state's clearinghouse and principle information source for Species of Concern – plants and animals that are at risk or potentially at risk in Montana. The Plant Species of Concern report, dated June 2006, identifies 358 vascular plant Species of Concern based on information gathered from field inventories, publications, reports, herbarium specimens, and the knowledge of Montana botanists. These plants are listed by scientific names in a table that specifies county distributions, among other information. Those plants ranging in Roosevelt and Sheridan counties are summarized in the following sections. None of the plant Species of Concern in Roosevelt and Sheridan counties are considered endemic (not occurring elsewhere). Figure 17 presents the number of species of concern present within each square mile in and near the study corridor.

4.2.2.1 Roosevelt County

The Plant Species of Concern listed for Roosevelt County are summarized in Table 46.

Table 46. Plant Species of Concern in Roosevelt County

Plant Species Common Name	State Rank
Bractless Mentzelia	S1
Poison Suckleya	S1
Nannyberry	S1
Green Muhly (Species of Potential Concern)	S3

4.2.2.2 Sheridan County

The Plant Species of Concern listed for Sheridan County are summarized in Table 47.

Table 47. Plant Species of Concern in Sheridan County

Plant Species Common Name	State Rank
Ovalleaf Milkweed	S1
Chaffweed	S2
Smooth Goosefoot	S1
Fendler Cat's-eye	S2
Silky Prairie Clover	S1
Pale-spiked Lobelia	S1
Plains Phlox	S2
Mealy Primrose	S2
Many-headed Sedge	S1
Schweinitz' Flatsedge	S2
Slender Bulrush	S1
Northern Blue-eyed Grass	S1

4.2.3 Noxious Weeds

Noxious weeds degrade habitat, choke streams, crowd native plants, create fire hazards, poison and injure livestock and humans, and foul recreation sites. Areas with a history of disturbance are at particular risk of weed encroachment. There are 27 noxious weeds in Montana, as designated by the Montana Statewide Noxious Weed List. Of those 27, seven occur in Roosevelt and Sheridan counties. Sheridan County has designated Showy Milkweed and Baby's Breath as noxious in addition to the state-designated weeds. Additionally, two federally listed noxious weeds, Dodder and Broomrape, are reported to occur within the two-county area. Table 48 summarizes the noxious weed species known or reported to occur in the study corridor.

Table 48. Noxious Weed Species Known or Reported to Occur in the Study Corridor

Species	Status or Designation	County of Occurrence
Dodder *(Cuscata)*	Federal Designated Noxious Weed	Roosevelt
Broomrape *(Orobanche)*	Federal Designated Noxious Weed	Sheridan
Canada Thistle *(Cirsium arvense)*	State Designated Noxious Weed	Roosevelt, Sheridan
Field Bindweed *(Convolvulus arvensis)*	State Designated Noxious Weed	Roosevelt, Sheridan
Whitetop *(Cardaria draba)*	State Designated Noxious Weed	Sheridan
Leafy Spurge *(Euphorbia esula)*	State Designated Noxious Weed	Roosevelt, Sheridan
Dalmatian Toadflax *(Linaria dalmatica)*	State Designated Noxious Weed	Roosevelt, Sheridan
Common Tansy *(Tanacetum vulgare)*	State Designated Noxious Weed	Sheridan
Showy Milkweed *(Asclepias speciosa)*	County Designated Noxious Weed	Sheridan
Baby's Breath *(Gypsophila paniculata)*	County Designated Noxious Weed	Sheridan

Areas of brush clearing concern and Herbicide Free Areas are expected to occur within the Study Area. The MDT Maintenance Manual provides vegetation management guidance for brush clearing concerns along state roadways. The manual provides information on timing of maintenance and environmental best management practices for brush and tree removal. Weed districts in the state may develop an Herbicide Free Area Agreement for landowners who request that herbicides not be applied to roadside rights-of-way adjoining their property (MDT, 2006). Construction activities in the study corridor should also abide by the MDT "Roadside Vegetation Management Plan – Integrated Weed Management Component", dated April 2006. County Weed Control Supervisors and MDT Wolf Point Division vegetation management personnel should be contacted prior to any construction activities regarding specific locations.

5 Cultural Resources

The cultural resource review consisted of a review of the Montana NRHP for Roosevelt and Sheridan counties, receipt of comments from an MDT archaeologist regarding cultural resources (Appendix C), and field reconnaissance to provide a preliminary overview of potential resources within the study corridor. Figure 15 presents cultural resources in and near the study corridor.

Steve Platt, archaeologist for MDT, wrote a letter regarding cultural resources for the TRED study on July 12, 2006. This letter stated that "…MDT can expect there to be dozens of archaeological sites within the proposed corridor, many of them significant to our understanding of local and regional prehistory…In addition to archaeological resources we can expect to find historic homesteads and ranches within the proposed corridor, as well as historic buildings within the towns of Plentywood, Antelope, Medicine Lake, and Culbertson.

"Assinibone and Sioux members of the Fort Peck Indian Reservation will undoubtedly have an interest in some or all of the prehistoric sites I have discussed above. They likely continue to pursue a variety of traditional uses (plant gathering, hunting, religious practice, etc…) within the corridor as well. I am also certain that the Fort Peck Tribes will have a vested interest in Montana 16 and Highway 2 expansion from an economic perspective.

"Should MDT decide to pursue expansion of the Montana 16 and US 2 facilities MDT will need to proceed with a full blown cultural resource inventory, archaeological testing, and requisite consultation with the Fork Peck Tribes."

Information provided in the letter regarding cultural resources particular to each corridor segment are summarized in the following sections. Coordination will be required with the Fort Peck Indian Reservation during project development to determine the presence of traditional cultural properties and/or traditional hunting grounds.

5.1 US 2 – North Dakota State Line to Culbertson

One site was found listed on the NRHP that would fall within the US 2 – North Dakota State Line to Culbertson segment, and is summarized in Table 49.

Table 49. NRHP Sites in US 2 - North Dakota State Line to Culbertson Segment

Name	City	Listed Date	NR Reference No.
Hale's Filling Station and Grocery	Bainville	8/16/1994	94000864

Field observations made regarding cultural resources within this segment are summarized in Table 50.

Table 50. Cultural Resources Observed in US 2 - North Dakota State Line to Culbertson Segment

Approximate Milepost	Description
653.5	Older rural residence observed on north side of road
661	Historic marker about Fort Union observed on north side of road
663	Older rural residence observed on north side of road
668	Older rural residence observed on north side of road

MDT archeologists suggest that since this segment follows Clover Creek and then crosses Shotgun Creek, Red Bank Creek, and the Little Muddy, buried campsites in the alluvial soils along the margins of these creeks can be expected. (MDT, 2006)

5.2 MT 16 – Culbertson to Medicine Lake

One site was found listed on the NRHP that would fall within the MT 16 – Culbertson to Medicine Lake segment, and is summarized in Table 51.

Table 51. NRHP Sites in MT 16 – Culbertson to Medicine Lake Segment

Name	City	Listed Date	NR Reference No.
Tipi Hills	Medicine Lake	8/1/1975	75001085

Field observations made regarding cultural resources within this segment are summarized in Table 52.

Table 52. Cultural Resources Observed in MT 16 – Culbertson to Medicine Lake Segment

Approximate Milepost	Description
88	Older barn observed on west side of highway
82	Historic farm observed on east side of highway, residence not historic
76.5	Froid cemetery observed on west side of highway
76	Historic farm observed approx. 0.3 miles east of highway
76.25	Historic building observed in Froid across from Fjeseth Field (east side of highway)
75.5	Kvile cemetery observed on east side of highway
73.5	Older rural residence observed on east side of highway
70	Old barn observed on Route 350, 1 mile west of highway
68	Longview Farm observed on east side of highway - may be historic
67.5	Older house and old barn observed on west side of highway
64	Historic house in Medicine Lake observed on east side of highway
64	Older barn observed on Route 573, 0.5 miles east of highway
64	Older home observed on west side of highway

Additional cultural information for the area was found in literature from the Medicine Lake NWR. In the past, Native Americans frequently used this area around Medicine Lake as a campsite while pursuing migrant buffalo herds and waterfowl flocks. Many of the surrounding hills contain rings of stones that mark locations of ceremonial sites or campsites. (USFWS, 1992)

MDT archaeologists expect less in the way of prehistoric archaeology from Medicine Lake to Culbertson compared to other corridor segments, based on the flatter, drier terrain. The exception to this is within the three or four miles of the corridor north of Culbertson. There could be stone circle sites and/or bison kills north of Culbertson in the breaks leading down toward the Yellowstone River. (MDT, 2006)

5.3 MT 16 – Medicine Lake to Plentywood

No sites were found on the NRHP list that would fall within the MT 16 – Medicine Lake to Plentywood segment. Field observations made regarding cultural resources within this segment are summarized in Table 53.

Table 53. Cultural Resources Observed in MT 16 – Medicine Lake to Plentywood Segment

Approximate Milepost	Description
62.5	Marked historic site observed on west side of highway (Flandrem)
60	Older buildings observed on east side of highway
52.5	Old farm buildings in disrepair observed on west side of highway
51.5	Older buildings observed on east side of highway at Lowell Valley Rd
50	Old historic (possibly school?) building observed on east side of highway in Antelope
50	Older homes observed in Antelope
50	Historic structure observed on west side of highway in Antelope
49	Historic buildings observed on west side of highway
47.5	Old barn and outbuildings/new home observed on east side of highway
47.5	Old barn and outbuildings/new home observed on west side of highway
47	Older farm observed on east side of highway
46	Older home observed on west side of highway
45	Older home observed on west side of highway
43.5	Drive in movie theater observed on north side of highway

MDT archaeologists expect that since this segment follows the eastern side of the Big Muddy Valley, several archaeological sites may be expected. Where the road crosses perennial tributaries of Big Muddy Creek, several buried campsites should be expected. Buried campsites can be particularly

important archaeological finds because cultural materials are almost always better preserved in buried rather than surface contexts. (MDT, 2006)

5.4 MT 16 – Plentywood to the Canadian Border

One site was found on the NRHP list that would fall within the MT 16 – Plentywood to the Canadian Border segment, and is summarized in Table 54.

Table 54. NRHP Sites in MT 16 – Plentywood to the Canadian Border Segment

Name	City	Listed Date	NR Reference No.
Raymond Grain Elevators Historic District	Raymond	10/27/1993	93001148

Field observations made regarding cultural resources within this segment are summarized in Table 55.

Table 55. Cultural Resources Observed in MT 16 – Plentywood to the Canadian Border Segment

Approximate Milepost	Description
1.5	Older barn observed on east side of highway
3	Older buildings observed on west side of highway
4	Older farmstead observed on east side of highway
7	Grain elevators observed on west side of highway, near Raymond
8	Older home observed on west side of highway
10	Old barn with new house observed on east side of highway
15	Old building in disrepair observed on east side of highway

MDT archaeologists expect to see several archaeological sites along the margins of the glacial potholes in this segment. (MDT, 2006)

6 Utilities

The following GIS-based utility information was reviewed in the study corridor (Figure 16):

- Petroleum pipelines
- Power lines
- Natural gas wells
- Injection wells
- Oil wells
- Water source wells
- Mine sites

6.1 US 2 – North Dakota State Line to Culbertson

A petroleum pipeline extends along the north side of this segment. A power line also extends along the north side of this segment, south of the petroleum pipeline. Natural gas wells are located approximately ½ mile south of the highway at approximate MP 658 and 645. Several oil wells are present in the area of the segment, including a cluster north of Bainville. It appears that only one oil well occurs within the 1-mile buffer of the highway, approximately 0.75 miles south of the highway near MP 653. No mine sites are located with the 1-mile buffer of the highway.

6.2 MT 16 – Culbertson to Medicine Lake

The petroleum pipeline that extends along the north side of US 2 crosses this segment near MP 87.5. The power line that also extends along the north side of US 2, south of the petroleum pipeline, crosses this segment near MP 88.5. A natural gas well is located in Froid, within ¼ mile east of the highway near MP 76. Another natural gas well is located in Medicine Lake, within ¾ mile west of the highway near MP 64. Fewer oil wells are present in the area of this segment. Two oil wells occur within the 1-mile buffer of the highway, located in Culbertson south of MP 87, on the east side of the highway. No mine sites are located with the 1-mile buffer of the highway.

6.3 MT 16 – Medicine Lake to Plentywood

A petroleum pipeline crosses this segment near MP 55. A power line crosses this segment near MP 62. Three natural gas wells are located within the one-mile buffer of the highway. One is located in Reserve, near MP 56, approximately one mile west of the highway. Another is located north of Antelope less than ¼ mile from the highway near MP 50.5. The third is located in Plentywood within ¼ mile of the highway near MP 41.5. Oil wells are present throughout the surrounding area of this segment. The first occurs near MP 63, approximately one mile east of the highway. Another is located near MP 58.5 approximately one mile west of the highway. One well is located near Reserve, near MP 56.5, approximately ¾ mile west of the highway. A cluster of oil wells occurs near MP 49, approximately ¾ mile west of the highway. No mine sites are located with the 1-mile buffer of the highway.

6.4 MT 16 – Plentywood to the Canadian Border

This segment does not cross any petroleum pipelines or power lines. A natural gas well is located in Raymond, within ½ mile west of the highway near MP 7. Fewer oil wells are present in the area of this segment, mainly clustered west of the Town of Raymond. No oil wells occur within the 1-mile buffer of the highway. No mine sites are located with the 1-mile buffer of the highway.

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