Biological Resources Report for

BILLINGS BYPASS

NCPD 56 (55) Control Number 4199 *Yellowstone County, Montana*

Prepared for:

Montana Department of Transportation



Prepared by:

David Evans and Associates, Inc.

November 2011

Executive Summary

This Biological Resources Report identifies and addresses potential effects on biological resources from the Billings Bypass project. It is being prepared in compliance with the environmental review process associated with the National Environmental Policy Act (NEPA), the Montana Environmental Policy Act (MEPA), and the US Endangered Species Act of 1973 (ESA).

MDT proposes to construct a new principal arterial roadway to improve access and connectivity between Interstate 90 (I-90) and Old Highway 312 (Hwy 312) to improve mobility in the eastern area of Billings, Montana. Typical sections include two 12-foot wide travel lanes in each direction; paved shoulder; and drainage channels and side slopes. Where practicable, the alternatives were placed along existing transportation facilities. Known habitat areas such as rivers, riparian zones, sagebrush steppe habitat, cliffs, and wetlands were avoided where possible. Based on the impacts reported in this and other resource reports, MDT will identify additional avoidance and minimization measures.

Six build alternatives were evaluated for the following resources; terrestrial resources, aquatic resources, sensitive species of special concern, threatened and endangered species, and wetlands and waters of the U.S. The results of this evaluation are summarized in this Executive Summary.

TERRESTRIAL RESOURCES

General Vegetation

About half of the project corridor is in existing transportation corridors and the other half traverses primarily agricultural land. To a lesser extent there are four native habitats found within the study area: riparian areas, sagebrush steppe, cliffs, and wetlands. A summary of preliminary impacts in presented in **Exhibit A**.

Exhibit A. Summary of Preliminary Impacts to Native Habitats

Alternatives	Johnson Lane Option 1 – Mary Street Option 1	Johnson Lane Option 1 – Mary Street Option 2	Johnson Lane Option 2 – Mary Street Option 1	Johnson Lane Option 2 – Mary Street Option 2	Johnson Lane Option 1 – Five Mile Road	Johnson Lane Option 1 – Five Mile Road
HABITAT TYPE						
Riparian	8 acres	5 acres	8 acres	5 acres	5 acres	5 acres
Sage brush steppe	0 acres	0 acres	0 acres	0 acres	0 acres	0 acres
Cliffs	0.4 acres	0.38 aces	0.4 acres	0.38 aces	0.3 acres	0.3 acres
Wetlands	3.71 acres	3.13 acres	4.80 acres	4.13 acres	3.70 acres	4.70 acres

Impacts to vegetation will be avoided and minimized by implementing best management practices (BMPs). Limits of clearing will be clearly marked and construction plans will specify material staging areas be outside of riparian or sagebrush steppe areas. Additional



conservation measures for vegetation are not anticipated with the implementation of project avoidance and minimization measures.

Noxious Weeds/Invasive Species

The study area has well maintained roadside grassy areas and agricultural areas with very few weed species. Where present, Priority 2B infestations are predominantly Canada thistle (Cirsium arvense) mixed with some Russian knapweed (Centaurea repens), houndstongue (Cynoglossum officianale). Leafy spurge (Euphorbia esula) was located only along the Yellowstone River south channel.

Ground-disturbing construction activities could facilitate the spread of noxious weeds by opening up new areas for invasion and assisting in transportation of weeds to new areas by equipment.

Standard specifications and BMPs will be used during and after construction to reduce and minimize noxious weeds. The following notes will be included in the plan set.

- Control of noxious weeds will occur during and after construction.
- A temporary erosion control plan will include provisions for post- construction revegetation of the disturbed road corridor with desirable species seed mix to minimize colonization by noxious weeds.

Additional conservation measures for noxious weeds are not anticipated with the implementation of project avoidance and minimization measures.

General Wildlife Species

Sixty-three bird species were identified; seventeen mammal species, three terrestrial reptile species and one terrestrial amphibian were documented. However the number wildlife species that are likely to occur in the study area due to the habitat diversity is much higher.

It is likely that impacts would include some direct mortality, displacement, and habitat fragmentation. It is anticipated that direct impacts to wildlife would be similar among alternatives as the length of the alignments and habitat are similar.

Avoiding and/or minimizing impacts to habitats, serves to avoid and minimize impacts to the wildlife that occupies them. By aligning alternatives with previously developed transportation corridors and altered landscapes, the conceptual design avoids or minimizes impacts to known ecological resources such as rivers, riparian, sagebrush steppe, cliff, and wetland areas. The MBTA requires a preconstruction nest survey if construction is to occur during the nesting season. The nesting season (and thus, seasonal restriction) generally is from April 30th through August 15th.

AQUATIC RESOURCES

Aquatic Sites

There are three major surface water bodies in the study area including the Yellowstone River, Five Mile Creek, and Seven Mile Creek. Other water bodies include unnamed tributaries, ponds, wetlands, gravel pit ponds, and numerous irrigation ditches. The



Yellowstone River is listed with a 303(d) water quality Category 5 and 2B designation. No other water bodies in the study area were included in the Water Quality Integrated Report 303 (d) list or Section 305(b) Report.

Direct impacts to Yellowstone River, Five Mile Creek, and Seven Mile Creek would occur at bridge crossing locations. Bridge engineering and analysis of resulting water body modifications would be conducted during final design. Direct water quality impacts would be primarily encountered during construction.

Numerous avoidance and minimization measures are included as part of this project, including but not limited to a temporary erosion control plan that will include provisions for post-construction revegetation of the disturbed road corridor with desirable species seed mix to minimize erosion, and stormwater pollution prevention plans will be incorporated as part of the final design. Additional conservation measures for aquatic resources are not anticipated with the implementation of project avoidance and minimization measures.

Permit requirements are specified in this BRR.

General Aquatic Species

Thirty-three fish species have been confirmed in the project area. In-water work may result in direct mortality and temporary disturbance and/or displacement of individual fish, aquatic amphibians and reptiles, microinvertibrates, and other organisms. Indirect impacts of the project to aquatic species could occur as a result of impacts to aquatic habitats through water quality concerns such as increased water temperature, pollutants, or habitat fragmentation.

Efforts to avoid and minimize impacts to aquatic species are anticipated to be achieved through avoidance and minimization measures to aquatic sites. Additional conservation measures for aquatic species are not anticipated with the implementation of project avoidance and minimization measures such as compliance with Section 208 of MDT's Standard Specifications and adherence to resource agency conditions.

SENSITIVE SPECIES OF SPECIAL CONCERN

Seventeen species of concern are likely to occur in the project area as shown in Exhibit B.

Exhibit B. Sensitive Species of Special Concern Documented in the Billings East Quadrangle, Yellowstone County

Common Name	Scientific Name	Global Rank	State Rank	Habitat Requirements	Occurrence in Project Area	Potential Project Impact
Birds						
Bald eagle	Haliaeetus leucocephalus	G5	S3	Rivers, lakes, riparian forest	P/D	Temporary disruption in foraging and roosting locations



Common Name	Scientific Name	Global Rank	State Rank	Habitat Requirements	Occurrence in Project Area	Potential Project Impact
Black-billed cuckoo	Coccyzus erythropthalmus	G5	S3B	Riparian forest	Р	Disruption of habitat and potential nest sites
Brewer's sparrow	Spizella breweri	G5	S2B	Sagebrush	P/D	No impact anticipated
Grasshopper sparrow	Ammodramus savannarum	G5	S3B	Grasslands	NL	No impact anticipated
Great blue heron	Ardea heodias	G5	S3	Riparian forest	P/D	Disruption of rookery
Loggerhead shrike	Lanius Iudovicianus	G4	S3B	Sagebrush, mixed use	Р	No impact anticipated
Peregrine falcon	Falco peregrinus	G4	S2B	Cliffs	Р	Temporary disruption in foraging and roosting locations
Pinyon jay	Gymnorhinus cyanocephalus	G5	S3	Open conifer	NL	No impact anticipated
Veery	Catharus fuscescens	G5	S3B	Riparian forest	Р	Disruption of habitat and potential nest sites
Mammals						
Hoary bat	Lasiurus cinereus	G5	S3	Riparian or forest near water sources	Р	Disruption of habitat and potential breeding locations
Spotted bat	Euderma maculatum	G4	S2	Arid land rock outcrops	Р	Temporary disruption of potential breeding locations
Reptiles						
Common Sagebrush lizard	Sceloporus graciosus	G5	S3	Sagebrush steppe with rock outcrops	P/D	Negligible direct impact



Common Name	Scientific Name	Global Rank	State Rank	Habitat Requirements	Occurrence in Project Area	Potential Project Impact
Greater short- horned lizard	Phrynosoma hernandesi	G5	S3	Sandy/gravelly soils of sparse arid sage or grasslands	Р	No impact anticipated
Milksnake	Lampropeltis triangulum	G5	S2	Rock outcrops, hillsides, badlands	Р	Negligible direct impact
Snapping turtle	Chelydra serpentina	G5	S3	Small reservoirs and perennial small streams	D	Negligible direct impact
Spiny softshell	Apalone spinifera	G5	S3	Prairie rivers & larger streams	Р	Negligible direct impact
Western hog-nosed snake	Heterodon nasicus	G5	S2	Sagebrush, grasslands, arid farms or floodplains	Р	Negligible direct impact
Fish						
Sauger	Sander canadensis	G5	S2	Large prairie rivers	NL	Potential disruption of spawning locations
Yellowstone Cutthroat Trout	Oncorhynchus clarkii bouvieri	G4T2	S2	Cold rivers	NL	No impact anticipated

Source: MTNHP 2011

P = probable occurrence based on habitat D= Documented by DEA field studies

NL=Not likely

Definitions of Ranks:

- G1 / S1 At high risk because of extremely limited and/or rapidly declining numbers, range, and/or habitat, making it highly vulnerable to global extinction or extirpation in the state.
- G2 / S2 At risk because of very limited and/or declining numbers, range, and/or habitat, making it vulnerable to global extinction or extirpation in the state.
- G3 / S3 Potentially at risk because of limited and/or declining numbers, range, and/or habitat, even though it may be abundant in some areas.
- G4 / S4 Uncommon but not rare (although it may be rare in parts of its range), and usually widespread. Apparently not vulnerable in most of its range, but possibly cause for long-term concern.
- G5 / S5 Common, widespread, and abundant (although it may be rare in parts of its range). Not vulnerable in most of its range.

Implementation of the Recommended Conservation Measures for general wildlife species will avoid the majority of breeding schedules addressed in this section. Construction timing restrictions might be important to avoid disturbance to spawning activities of the sauger, which is a spring spawner.



Blasting within $\frac{1}{2}$ mile of active eagle nest nests should be avoided. Blasting within $\frac{1}{2}$ mile of bald eagle communal roosting sites may not be conducted without prior coordination of the USFWS and MTFWP. The location of the eagle nests and communal roosting sites needs to be verified by a pre-construction survey or by coordination with resource agencies or organizations. The location of the heron rookery needs to be verified by a pre-construction survey or by coordination with resource agencies or organizations. If it is located within the 900-foot recommended buffer area, consultation with the resource agencies is advised.

THREATENED AND ENDANGERED SPECIES

A summary of the project effects to federally protected species is provided below in **Exhibit C**.

	•	-		•
Common Name	Scientific Name	USFWS Status	Occurrence in Project Area	Project Effect Determination
Whooping crane	Grus americana	Listed Endangered	Potentially during migration	Not likely to adversely affect.
Greater sage- grouse	Centrocercus urophasianus	Candidate	Unlikely	Not likely to significantly impact populations, individuals, or suitable habitat.
Sprague's pipit	Anthus spragueii	Candidate	Unlikely	Not likely to significantly impact populations, individuals, or suitable habitat.

Exhibit C. Federally Listed Species in the Project Area

No conservation measures are likely to be necessary. However, if any whopping cranes are observed in or adjacent to the project area during construction, work would be halted and MDT would contact the USFWS. Migration peaks are in April and October.

WETLANDS

Over 50 wetlands were identified within the study area. Of those, 24 wetlands were located within the project corridor (construction limits based on conceptual design). A summary of preliminary wetland impacts in presented in **Exhibit A** along with other vegetation impacts. Impacts assume that any wetlands under bridge structures would be completely affected.

The USACE 404 (b) permit would require mitigation for the impacts to jurisdictional wetlands in the form of using credits from one of MDT's wetland mitigation reserves; purchasing credits from a wetland mitigation bank; or developing on-site wetland restoration, enhancement, or creation. MDT policy is to avoid and minimize impacts to wetlands, and if wetlands are impacted as a result of an individual highway project, MDT would mitigate for jurisdictional and non-jurisdictional wetlands.



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LIST OF ACRONYMS AND ABBREVIATIONS

BLM U.S. Department of Interior, Bureau of Land Management

BMP best management practice BRR Biological Resources Report

CEQ Council for Environmental Quality

CFR Code of Federal Regulations
DEA David Evans and Associates, Inc.

CWA Clean Water Act

EIS Environmental Impact Statement

EO Executive Order

EPA U.S. Environmental Protection Agency

ESA Endangered Species Act

F Fahrenheit

FHWA U.S. Department of Transportation – Federal Highway Administration

GIS Geographic Information Systems

GPS Global Positioning System

Hwy 312 Old Highway 312 HUC Hydrologic unit code

I-90 Interstate 90

MBTA Migratory Bird Treaty Act

MDA Montana Department of Agriculture

MDEQ Montana Department of Environmental Quality

MDT Montana Department of Transportation
MEPA Montana Environmental Policy Act

MP milepost

MPDES Montana Pollutant Discharge Elimination System

mph miles per hour

MFISH Montana Fisheries Information System

MPDES Montana Pollutant Discharge Elimination System

MT Montana

MTNHP Montana Natural Heritage Program
MTFWP Montana Fish, Wildlife and Parks
NCDC National Climatic Data Center
NEPA National Environmental Policy Act

NRCS U.S. Department of Agriculture – Natural Resources Conservation Service

NWI National Wetland Inventory

QQLL quarter of a quarter Latitude/Longitude

SPA Stream Protection Act



TMDL total maximum daily load
USACE U.S. Army Corps of Engineers
USDA U.S. Department of Agriculture
USFWS U.S. Fish and Wildlife Service

USGS U.S. Department of Interior, Geological Survey

WRCC Western Regional Climate Center



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1.0 Introduction

This Biological Resources Report (BRR) identifies and addresses potential project effects on biological resources in the project area. It is being prepared in compliance with the environmental review process associated with the National Environmental Policy Act (NEPA), the Montana Environmental Policy Act (MEPA), and the U.S. Endangered Species Act of 1973 (ESA).

This document describes the existing ecological conditions of the project area and the anticipated impacts of the proposed project on those resources. Biological resource topics addressed in this BRR include:

- Terrestrial Resources
- Aquatic Resources
- Montana Species of Concern
- Threatened and Endangered Species
- Wetlands

1.1 PROJECT DESCRIPTION

MDT proposes to construct a new principal arterial roadway between Interstate 90 (I-90) and Old Highway 312 (Hwy 312). The goals of this project include:

- Reduce physical barrier impacts to the transportation system.
- Improve connectivity between Lockwood and Billings.
- Improve mobility to and from Billings Heights.
- Improve truck/commercial vehicle access to and through Billings.

The proposed project area is located in Yellowstone County in the northeast portion of the Billings urban area (**Exhibit 1**).

1.1.1 Alternatives

No-Build Alternative

Under the No-Build Alternative, the proposed new principal arterial would not be constructed and existing conditions within the study area would continue. The No-Build Alternative would have no temporary construction, direct, indirect, or cumulative impacts on any biological resources in the study area. Therefore no mitigation would be required under the No-Build Alternative.



Legend Billings Bypass Study Area MDT Urban Area Boundary Billings City Limits ■ US Interstate - Highway Local Roads City of Billings, Yellowstone County Waterways Not to scale TO McGirl Rd HUNTLEY TO ezen Mile Creek LEWISTOWN Drury Ln 87 TO 1 Dover Rd Alexander Rd MILES ve Mile Rd CITY Wile Creek Mary St Wicks Ln le llows to nex ive Airport Rd BOZEMAN

Exhibit 1. Project Location

Build Alternatives

The proposed road is designed to meet National Highway System Principle Arterial standards and will include limited access control measures to balance through mobility and local access needs. Each of the alternatives under consideration begins at the



Johnson Lane interchange with Interstate 90 (I-90) and would require a complete reconstruction of the existing interchange. The build alternatives for this project are bounded connect between I-90 and Old Hwy 312. Six alignment alternatives are addressed in this report.

- Johnson Lane Option 1 Mary Street Option 1
- Johnson Lane Option 1 Mary Street Option 2
- Johnson Lane Option 2 Mary Street Option 1
- Johnson Lane Option 2 Mary Street Option 2
- Johnson Lane Option 1 Five Mile Road
- Johnson Lane Option 2 Five Mile Road

Elements common to all of the alternatives include two 12-foot wide travel lanes in each direction, paved shoulders, and drainage channels and side slopes. The design speed, shoulder width, and median vary by alternative depending on the context of the surrounding area. Alignment segments using urban design standards have a design speed of 55 mph. Alignment segments using rural design standards have a design speed of 60 or 70 mph dependant of the topography of the surrounding area. The three typical sections proposed for this project are shown in **Exhibit 2**.

All alternatives include new bridge structures. Ground disturbance and noise disturbance from blasting and pile driving is anticipated. Both of the Yellowstone River bridge crossing options utilize two different superstructure types. Multi-span composite steel plate girders were selected to cross the active channel. Outside of the active channel and for crossing the remainder of the floodplain, the span lengths were reduced and prestressed concrete girders were assumed.

The superstructure type for the railroad overpasses varies between the two Johnson Lane alignment options. As a result of the anticipated skew of the Johnson Lane Option 1 overpass structure, multi-span steel plate girders were selected for the superstructure type. Prestressed concrete girders were selected for the Johnson Lane Option 2 overpass structure, as this alignment is generally straight and the bents are anticipated to be positioned normal to the roadway.

The bridge over Five Mile Creek (associated with alternatives using Mary Street Option 2 only) uses steel plate girders with a single-span radial layout. This bridge type is due to the horizontal and vertical curve anticipated at this location.

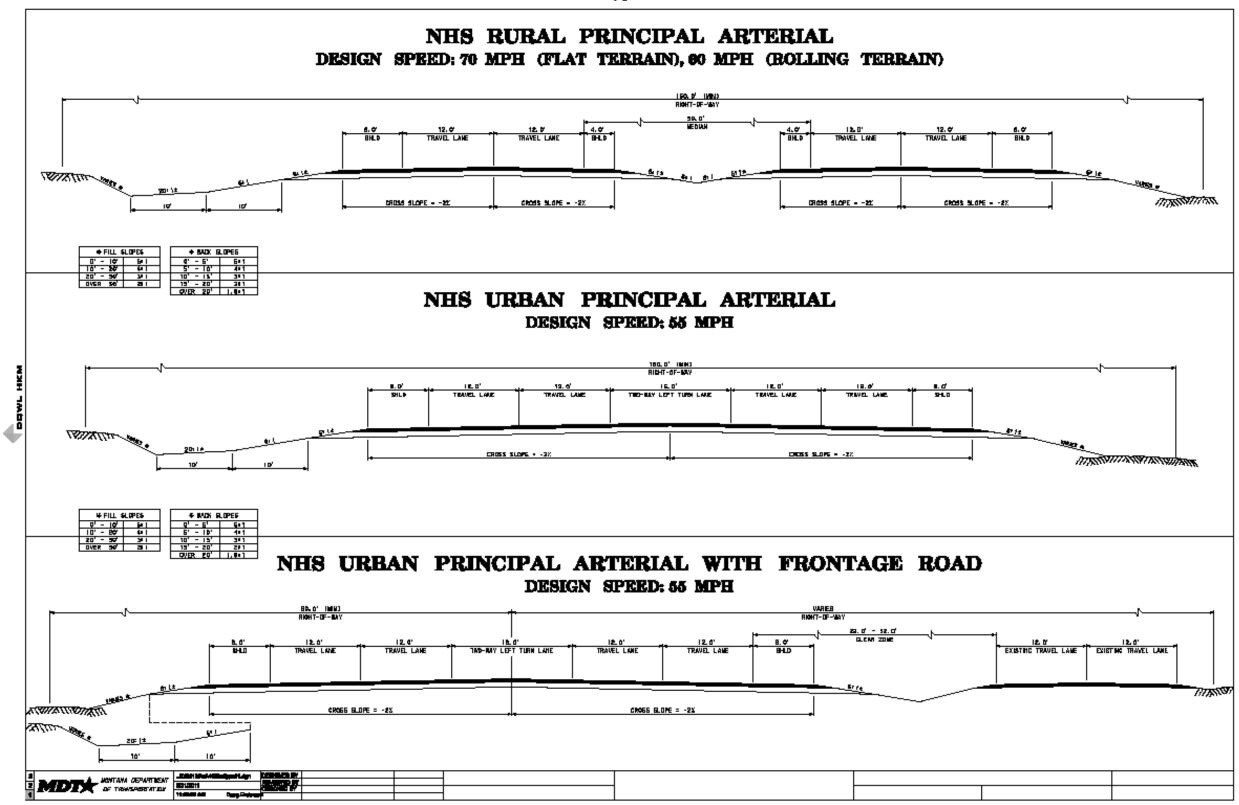
For each of the alternatives to be carried forward in the DEIS, additional improvements are recommended for existing roads north of the Yellowstone River to meet design objectives for operations and safety. Therefore, each alternative will include primary corridor improvements (as discussed above) as well as secondary corridor improvements. This report does not address the secondary corridor improvements because the design of these improvements is in progress. The impacts associated with the primary and secondary corridor improvements will be evaluated in the EIS.



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Exhibit 2. Typical Sections





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1.1.2 General Avoidance and Minimization Measures

The project team considered known terrestrial and aquatic biological resources in the routing of alternatives in this conceptual design. Where practicable, the alternatives were placed along existing transportation facilities. Known habitat areas such as rivers, riparian zones, sagebrush steppe habitat, cliffs, and wetlands were avoided to the greatest extent practicable.

Unavoidable impacts were minimized. The alignments were routed around and away from the confluence of the Yellowstone River and Five Mile Creek. The bridge structures were designed to minimize the environmental impacts by spanning the streams riparian, wetland, and floodplains areas and limiting the number of intermediate bents located in the active river channel. Avoiding and minimizing impact to these important habitats thereby avoids and minimizes impacts to the species that occupy them.

Based on the impacts reported in this and other resource reports, MDT will identify additional avoidance and minimization measures. These measures will be incorporated, as practicable, into the preliminary design and will be used to calculate impacts for the Environmental Impact Statement (EIS), including updated and refined impact analysis for vegetation, wildlife, and other resources.

1.2 GENERAL AREA DESCRIPTION

The proposed project is located in Yellowstone County in the northeastern portion of the Billings urban area and contains a combination of residential, agricultural, and commercial land uses. The south and west portions of the project area are mostly developed land consisting of residential, commercial, and industrial uses. The north and east portions of the study area are more rural in nature consisting of predominantly agricultural uses. The Yellowstone River flows in a northeasterly direction through the length of the study area and is flanked by a broad floodplain with steep sandstone cliffs in some locations. In the southern portion of the study area, the land on the north side of the floodplain is between 43 and 115 feet higher than the land on the south side of the floodplain. Named tributaries of the Yellowstone River within the study area include Five Mile Creek and Seven Mile Creek.

2.0 General Study Methods

Information included in this BRR was obtained from a variety of sources including review of literature, map and photo interpretation, field surveys, and personal communications with the project team, agency staff, and local landowners.

In this report, Council for Environmental Quality (CEQ) regulation 1508 terminology is used. The term "temporary construction impacts" refers to effects that are caused during the construction process and end once construction is complete. The term "direct impacts" refers to effects that are caused by the action and occur at the same time and place. "Indirect impacts" are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect impacts may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on air and water and other natural systems, including ecosystems. A "cumulative impact" is the impact on the



environment, which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertake such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time [40 CFR 1508].

The study area for this project includes an approximately 18 square mile area between I-90 and Old Hwy 312. The study area boundary is depicted in **Exhibit 1**.

The project corridor is defined as an area that includes the construction limits of all six alignment alternatives. Quantitative impact calculations are based on the current conceptual design of alternatives. These conceptual design plans did not include staging areas, materials storage areas, or secondary road improvements. These areas will be included in the alternative alignments advanced in the preliminary and final designs and will be documented in the EIS.

For the purposes of this report, the project area is defined as the project corridor plus all adjacent areas that contribute to the characterization and attributes of the wildlife resources, up to one mile from the project corridor.

2.1 AGENCY COORDINATION

MDT received letters from the U.S. Fish and Wildlife Service (USFWS), Montana Fish, Wildlife and Parks (MTFWP), and from the Montana Natural Heritage Program (MTNHP) responding to requests for information pertaining to sensitive, candidate, threatened, and endangered fish, wildlife, and plant species. The Department of Environmental Quality (MDEQ) and Department of Natural Resources and Conservation (DNRC) are participating agencies and Army Corps of Engineers (USACE) is a cooperating agency. In a letter dated, July 26, 2012 (see Appendix A), the United States Fish and Wildlife Service (USFWS), concurred with MDT's determination that the project is not likely to adversely affect the whooping crane, and the determination regarding no effect on the black-footed ferret. They also acknowledged MDT's determination that the proposed action is not likely to jeopardize the existence of greater sage grouse and Sprague's pipit (both candidate species). The Service also noted that the letter indicated conclusion of informal consultation pursuant to regulations 50 CFR 402.13. Letters from these agencies are included in **Appendix A**.

2.2 LITERATURE AND DATABASE SEARCHES

A literature and database review was conducted to identify general wildlife, fish, vegetative communities, noxious weeds, and threatened and endangered species, rare and/or sensitive plant and animal species. Current database information from USFWS, MTNHP, and MTFWP sources concerning threatened, endangered, and sensitive species potentially inhabiting the area were obtained. Habitats, rivers, streams, wetlands, irrigation canals, pipes, and other water resources at or near the project corridor were investigated through database review with map and photo interpretation. Climate, soils, geography, and land use were also investigated.

MTNHP species occurrence information depicts probable occupied habitat based on direct observation of a species location and home range size of the species. It should be noted that because surveys may not have been conducted in the area, lack of documentation of



occurrence by MTHNP, MTFWP, and investigations for this BRR, do not disprove the presence of significant biological features.

2.3 FIELD SURVEYS

Biologists with David Evans and Associates, Inc. (DEA) conducted project area site visits on July 12-14 and August 24-26, 2011, and earlier investigations in the fall of 2007. Reconnaissance level biological surveys and wetland delineations were conducted within the study area. Qualitative data on other biological resources were collected throughout the study area. This included describing vegetative communities, wildlife habitats, plant species, noxious weeds, wildlife observations, and an assessment of the potential for threatened and endangered species or species of concern to occur in the study area.

Resource-specific study methods are described in appropriate sections below.

3.0 Terrestrial Resources

3.1 METHODS

Terrestrial resource information was initially obtained from a review of literature and maps primarily via the internet and supported by correspondence with agency personnel and field investigations. An inventory of vegetation along the project corridor was prepared during site visits. References to the source of information are included in the resource narratives and References, **Section 8.0**.

3.2 RESULTS

3.2.1 Ecological Setting and General Description

The project area is located within the Northwestern Great Plains Ecoregion Level III and more specifically the Montana Central Grasslands Ecoregion Level IV. The Central Grassland Ecoregion is described as an unglaciated plain that is dissected by many small, ephemeral, or intermittent streams. It is largely underlain by noncarbonate, finegrained sedimentary rock of the Tertiary Fort Union Formation. Clayey frigid soils derived from residuum are common and have an ustic-aridic moisture regime. Natural vegetation is grama-needlegrass-wheatgrass. The ecoregion is mostly rangeland, but irrigated and unirrigated farms occur in the Yellowstone Valley (Woods et al. 2002).

The Billings area has a relatively dry climate with hot summers and cold winters. The average annual precipitation in Billings from 1948 to 2010 was 14.3 inches. May is the wettest month averaging 2.3 inches, and February the driest, averaging 0.6 inches. Average annual snowfall is 59.1 inches. Average daily maximum temperature is 58.7° F (Fahrenheit), and an average daily minimum is 36.0° F. (WRCC [Western Regional Climate Center] 2010). The frost-free season averages 150 days (NCDC [National Climatic Data Center] 2011).



3.2.2 General Vegetation

Baseline Conditions

The study area crosses a variety of land cover types. The predominant habitats observed were residential, commercial, agricultural, and those natural habitats found to be associated within the Yellowstone River corridor such as riparian, cliffs, and wetlands. The Yellowstone River corridor includes the Yellowstone River and its naturally occurring tributaries: Five Mile Creek and Seven Mile Creek. Multiple irrigation canals and ditches intersect the project area and many have associated wetlands.

Residential and commercial areas were located within city limits and transitioned to industrial, rural residential, and agricultural land use outside of city limits. About half of the alignment corridor is existing transportation corridors, the other half is primarily agriculture. The agricultural uses in the study area were predominantly irrigated hayfields, with some non-irrigated hayfields, pasture, and cultivated croplands.

The native habitats observed were primarily associated with the river corridors and nearby undisturbed upland areas. Riparian areas identified in the study area were primarily associated with the Yellowstone River, with isolated patches along the tributaries. These habitats had moderate plant diversity but little to no buffers due to the proximity of the agricultural, commercial, and residential land use. In these areas, the riparian habitat quality was reduced and, in some cases, fragmented. The most prevalent tree species include: Plains cottonwood (*Populus deltoides*) and crack willow (*Salix fragilis*). In the Yellowstone River floodplain, the riparian area had higher habitat quality with mature, large-diameter Plains cottonwood trees and snags. Russian olive (*Elaeagnus angustifolia*), ash (*Fraxinus latifolia*), and boxelder (*Acer negundo*) were found along Five Mile Creek and other tributaries. Typical shrub species included smooth sumac (*Rhus trilobata*) and silver buffaloberry (*Shepherdia argentia*).

Sagebrush steppe areas were located in the study area north of the Yellowstone River, adjacent to the Five Mile Creek drainage. These areas had generally moderate to low habitat quality due to the presence of introduced species, fragmentation, and lack of buffers to agricultural or developed areas. The most prevalent species include big sage (Artemesia tridentata), common rabbit-brush (Chrysothamnus nauseosus), western wheatgrass (Agropyron smithii), bluebunch wheatgrass, (Agropyron spicatum), and Idaho fescue (Festuca idahoensis).

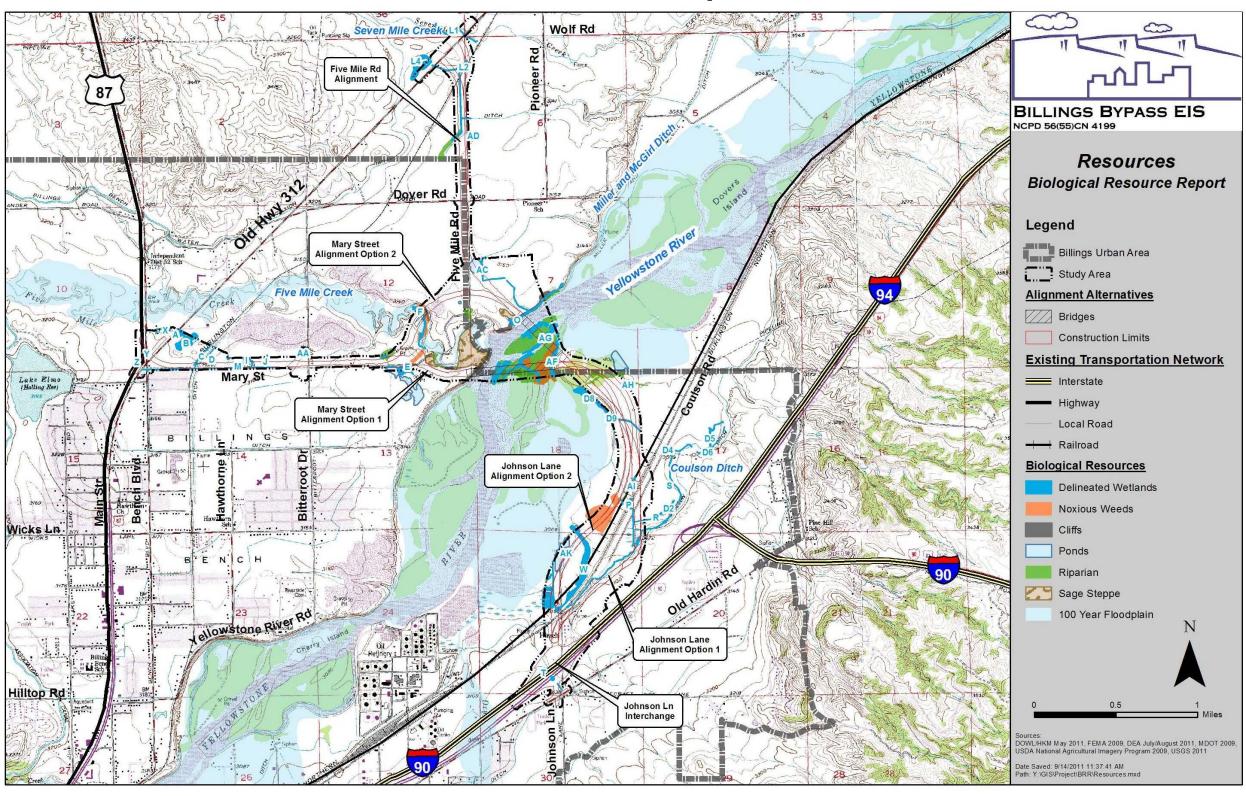
Sandstone cliffs ring the bluffs of the Yellowstone River corridor. They rise about 60-75 feet above the Yellowstone River and about 50-70 feet above Five Mile Creek in the study area.

Wetlands are described in **Section 7.0**.

Exhibit 3 provides a general overview of study area resources and project alternatives on aerial imagery with rivers, riparian, cliffs, sagebrush steppe, wetlands, and noxious weed areas displayed. **Appendix B**, photographs 1-24 provide an overview of the alignments and resource features.



Exhibit 3. Resource Map





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Potential Impacts

Generally, the amount and type of direct vegetation impact would be similar among the alternatives as the length of the alternatives and habitat that the alternatives cross are similar.

About half of the alignment corridor crosses agricultural land; therefore, vegetation removal would primarily impact agricultural areas. To a lesser extent, there are five native habitats found within the alignment corridors: streams, riparian areas, sagebrush steppe, cliffs, and wetlands. Streams are discussed in **Section 4.0** and wetlands are discussed in **Section 7.0**.

The bridge crossings generally avoid habitats associated with the streams, but at the Yellowstone River crossing, the riparian habitat would be removed as needed under the bridge, primarily Plains cottonwood trees. The height of the bridge varies from east to west. The conceptual design did not establish the clearance area under the bridges or whether or not shrubs and forbs are to remain or be planted under the bridge. Cliff areas are also located under the bridges. Sagebrush steppe areas were avoided. A summary of potential impacts according to alignment alternatives is presented in **Exhibit 4**.

Indirectly, the project may increase the degradation of the riparian, sagebrush steppe, and cliff areas through fragmentation or spread of noxious weeds. They may indirectly be affected through fragmentation.

Exhibit 4. Potential Impact to Native Habitat Areas in Study Area

Habitat type	Riparian *	Sage brush steppe	Cliffs*
Alternatives			
Johnson Lane Option 1 - Mary Street Option 1	8 acres	0 acres	0.4 acres
Johnson Lane Option 1 - Mary Street Option 2	5 acres	0 acres	0.38 aces
Johnson Lane Option 2 - Mary Street Option 1	8 acres	0 acres	0.4 acres
Johnson Lane Option 2 - Mary Street Option 2	5 acres	0 acres	0.38 aces
Johnson Lane Option 1 – Five Mile Road	5 acres	0 acres	0.3 acres
Johnson Lane Option 1 – Five Mile Road	5 acres	0 acres	0.3 acres

^{*}Approximate area of intersect of the bridge over delineated riparian and cliff areas.

Johnson Lane Option 1 and Johnson Lane Option 2 with Mary Street Option 2 had 0.3 acres potential cliff impacts at Yellowstone River and 0.08 acres at Five Mile Creek for a



total of 0.38 acres of potential impacts. All other potential cliff impacts locations are located at the north bank of the Yellowstone River.

Avoidance and Minimization

The avoidance and minimization measures identify important measures incorporated as part of the design.

The conceptual design will be further refined with avoidance and minimization measures. With more information about the bridge configuration, the project alternatives will be analyzed to assess permanent and temporary direct impacts to vegetation and native habitats. This analysis is to include the amount and type of vegetation impacted, the number of mature trees, and the actual area of riparian habitat and cliff habitat impacted under each alternative.

Impacts to vegetation will be avoided and minimized by implementing best management practices (BMPs). Limits of clearing will be plainly marked and construction plans will specify material staging areas be outside of riparian or sagebrush steppe areas.

Recommended Conservation Measures

Recommended Conservation Measures include further alternative refinement to avoid impacts to vegetation. During EIS development, the type and acreage of impacts will be calculated under each alternative. Final design will avoid and minimize impacts of the preferred alternative to the extent practicable. Additional conservation measures for vegetation are not anticipated with the implementation of project avoidance and minimization measures.

3.2.3 Noxious Weeds/Invasive Species

Yellowstone County manages noxious weeds within the project area. The Montana Department of Agriculture (MDA) defines noxious weeds as "any exotic plant species established or that may be introduced into the state that may render land unfit for agriculture, forestry, livestock, wildlife, or other beneficial uses or that may harm native plant communities and that is designated as a statewide noxious weed by rule of the department; or as a district noxious weed by a board, following public notice of intent and public hearing" (MDA 2010). Noxious weeds are broken into five priority levels by Yellowstone County as follows.

Priority 1A: These weeds are not present in Montana. Management criteria will require eradication if detected; education; and prevention.

Priority 1B: These weeds have limited presence in Montana. Management criteria will require eradication or containment and education.

Priority 2A: These weeds are common in isolated areas of Montana. Management criteria will require eradication or containment where less abundant. Management shall be prioritized by local weed districts.

Priority 2B: These weeds are abundant in Montana and widespread in many counties. Management criteria will require eradication or containment where less abundant. Management shall be prioritized by local weed districts.



Priority 3: Regulated Plants: (Not Montana Listed Noxious Weeds) These regulated plants have the potential to have significant negative impacts. The plant may not be intentionally spread or sold other than as a contaminant in agricultural products. The state recommends research, education and prevention to minimize the spread of the regulated plant.

In addition to the state-declared noxious weed list, each county weed district can declare additional non-native plants to be noxious within the county (Yellowstone County Weed Department 2011).

Species, Distribution, and Degree of Infestation

Generally, the study area and alignment corridors have well maintained roadside grassy areas and agricultural areas with very few weed species. Species and quantity of noxious weeds are similar among alternatives. The weed locations indicated in **Exhibit 3** were predominantly Priority 2B including Canada thistle (Cirsium arvense) infestations and, to a lesser extent, Russian knapweed (Centaurea repens) and houndstongue (Cynoglossum officianale). Leafy spurge (Euphorbia esula) was located only along the Yellowstone River south channel noxious weed area. Priority 1A, 1B, and 2A noxious weeds were either not found or found as individual plants in small isolated occurrences. Russian Olive, a Priority 3 species (Not Montana Listed Noxious Weeds), was found to be a dominant and prevalent species along Five Mile Creek, its tributaries, and wetlands in the project area. Priority 3 regulated plants have the potential to have significant negative impacts.

Potential Impacts

Ground-disturbing construction activities could facilitate the spread of noxious weeds by opening up new areas for invasion and assisting in transportation of weeds to new areas by equipment.

Avoidance and Minimization

Standard specifications and BMPs will be used during and after construction to reduce and minimize noxious weeds. The following notes will be included in the plan set.

- Control of noxious weeds will occur during and after construction.
- A temporary erosion control plan will include provisions for post-construction revegetation of the disturbed road corridor with desirable species seed mix to minimize colonization by noxious weeds.

Recommended Conservation Measures

Additional conservation measures for noxious weeds are not anticipated with the implementation of project avoidance and minimization measures.

3.2.4 General Wildlife Species

This section describes general fish, wildlife, and their habitats known or potentially present in the project area. Montana species of concern are described in more detail in **Section 5.0**. Species protected by the ESA are described in **Section 6.0**.



Species Present and Distribution

Based on the habitats present in the study area, as described in **Section 3.2.2**, numerous wildlife species are likely to occur. Because the alignment corridors are primarily agricultural or developed, species that are adapted to the human environment are highly likely to occur project-wide. Areas such as the Yellowstone River corridor with habitat such as riparian, cliffs, and wetlands may have a high diversity of species. Irrigation canals and ditches in the agricultural areas provide wildlife with a man-made water and habitat source that would not naturally be present in this arid climate area.

Species that prefer sagebrush steppe habitats would be found in fewer numbers as the percentage of this habitat in the project area is very low and fragmented. Species that do not tolerate human disturbance would likely be found in fewer numbers near the developed areas of the study area.

Appendix C contains the lists of birds, mammals, reptiles and amphibian observed during biological surveys or reported by landowner accounts.

Sixty-three bird species were identified by sight or song during biological surveys of the study area in July and August 2011, including, but not limited to, waterfowl, shorebirds, raptors, passerines, game birds, and woodpeckers. All but five of these species are protected by the Migratory Bird Treaty Act (MBTA). Most of these species are cosmopolitan, associated with many habitat types and adapted to human activities and man-made environs. The field reconnaissance took place in the late portion of the breeding season, so many species may not have been detected. Since the project area is within the North American Central Flyway bird migration route, innumerable species of birds migrate through the area.

Seventeen mammal species were documented by sight or sign during site visits from August through October 2007. Landowner accounts support general observations that many mammal species known to occur in Yellowstone County use the Yellowstone River and tributaries as travel corridors and for food, cover, and water. Most of these species are associated with altered habitat and have adapted to human activities and are common project-wide in a variety of man-made environs. Species include but are not limited to big game, carnivores, bats, and rodents. Other small mammals that were not observed during field investigations but may occur in the project area, based on habitat and range (MTNHP and MTFWP 2011), include little myotis bat (*Myotis sp*), meadow vole (*Microtus pennsylvanicus*), deer mouse (*Peromyscus maniculatus*), house mouse (*Mus musculus*), and Norway rat (*Rattus norvegicus*). Domestic animals include cattle, horses, cats, and dogs.

Three terrestrial reptile species and one terrestrial amphibian were documented by sight in the study area. Other species that were not observed during field investigations but may occur include Western Rattlesnake (*Crotalus viridis*), plains spadefoot (*Spea bombifrons*), and Great Plains toad (*Bufo cognatus*) (MTNHP 2011c). Terrestrial reptiles and amphibians were found in agricultural and riparian areas. Aquatic reptiles and amphibians are discussed in **Section 4.0**.

Potential Impacts

It is anticipated that direct impacts to wildlife would be similar among alternatives as the length of the alignments and habitat are similar. Potential impacts to wildlife would



primarily occur in the higher quality habitat areas such as along the Yellowstone River and in undeveloped areas of the project area. Impacts would likely include direct mortality, displacement, and habitat fragmentation.

Direct mortality of road-killed wildlife would likely increase over the current conditions because of new roadways, additional pavement, traffic, and new traffic speeds in the project area. Speeds on the urban arterials will increase from 35 mph to 55 mph and on the rural arterials will increase to 70 mph.

During construction small mammals, reptiles, amphibians, and invertebrates, especially those that burrow, could experience direct mortality due to earth moving activities. Birds and larger species of mammals currently using the proposed project footprint and adjacent areas may be displaced into surrounding lands during construction because of construction noise and other disturbances. In particular, the cavity nesting or burrowing mammals that utilize the mature, large diameter trees along the Yellowstone River corridor may experience direct mortality during the winter and spring breeding months if tree removal occurs during these months.

Indirectly, wildlife would be impacted by the presence of a new roadway, increased roadway noise, and increased habitat fragmentation, which could reduce the quality of wildlife habitat in the study area. Movement of wildlife for foraging, dispersion, and migration could be altered. However, connectivity in riparian areas that provide important travel corridors for wildlife will be maintained by the installation of appropriately sized culverts and bridges. Mitigation measures described below would reduce the potential adverse effects on wildlife movements.

Avoidance and Minimization

The project team considered effects to wildlife and wildlife habitat in the routing of alternatives. By aligning alternatives with previously developed transportation corridors and altered landscapes, the conceptual design avoids or minimizes impacts to known ecological resources such as rivers, riparian, sagebrush steppe, cliff, and wetland areas. Avoiding and/or minimizing impacts to habitats, i.e. avoidance and minimization measures in **Section 3.2.2**, serves to avoid and minimize impacts to the wildlife that occupies them.

The impacts to the Yellowstone River corridor wildlife habitats would be generally avoided because of the bridge crossings design. However, there will still be impacts to habitat areas from abutments, piers, and vegetation clearance zones.

Recommended Conservation Measures

The Migratory Bird Treaty Act (MBTA) of 1918 prohibits the destruction or damage of active or occupied nests and eggs of migratory birds. Native species that do not migrate are included under the protected list of the MBTA (USFWS Undated a). Impact to known breeding locations such as avian nests or burrows will be avoided or minimized as required. In conformance to the MBTA, seasonal restrictions or deterrent methods are used to ensure that active nests are not harmed during the breeding season.

Recommended conservation measures include, but are not limited to: a) removal of structures outside of the nesting season and when the nests are not occupied, typically between the dates of August 16 and April 30; b) removal of unoccupied nests, partially



completed nests, or new nests as they are build (prior to occupation); c) installation of nesting deterrents that do not harm active nests; d) removal of existing and new nests from the structure as they are built (this work performed outside of the nesting season and when the nests are not occupied, typically between the dates of August 16 and April 30); e) cover or enclose potential nesting surfaces with mesh netting, chicken wire fencing, or other suitable material to prevent birds from establishing new nests; f) and application of a non-toxic, non-lethal, bird repellent gel or liquid on all potential nesting surfaces on the structure to prevent new nests from being established.

4.0 Aquatic Resources

4.1 METHODS

Aquatic resource information was obtained primarily from a review of literature via the internet and supported by correspondence with agency personnel and field investigation. General aquatic species presence was documented when feasible during field investigations. References to the source of information are included in the resource narratives and **Section 8.0**.

4.2 RESULTS

4.2.1 Aquatic Sites

The project area is located within the Upper Missouri Drainage Basin and the Middle Yellowstone Watershed, Yellowstone Basin identified as U.S. Geological Survey (USGS) Hydrologic Unit Code (HUC) 10070007, Upper Yellowstone-Pompeys Pillar. The Yellowstone River originates at Yellowstone Lake in Yellowstone National Park, Wyoming and flows north into Montana through Paradise Valley, between Gardiner and Livingston. At Livingston, the river flows east through Billings, eventually flowing into the Missouri River near the Montana/North Dakota border. The Yellowstone River has a drainage area of 11,795 square miles.

The MTNHP classifies the Yellowstone River as a Large Valley River, Aquatic Ecological System Type A001 and A002 (Stagliano 2005). It is a large warm-water river with a moderate gradient and characterized by long deep runs and pools with depths of less than two meters, mid-stream islands, and side channels and interspaced riffles. Substrate generally consists of cobble in the riffles, with sand and gravel in the runs and pools, and gravel or finer textured substrates in side channels.

All of Yellowstone County is drained by the Yellowstone River and its tributaries. East of Billings, the Yellowstone River has cut through resistant sandstone, which has formed prominent rimrocks on both sides of the valley. The river flows northeastward through a moderately steep-walled valley (Stagliano 2005). It ranges from a few hundred feet to more than half a mile in width, carrying a large volume of water (USGS 2011). The Yellowstone River includes the floodplain and channel migration areas.

Surface Water

The three major surface water bodies in the study area include the Yellowstone River, Five Mile Creek, and Seven Mile Creek. The flow of Seven Mile Creek to the Yellowstone



River is interrupted by a flume. Other surface water bodies include smaller unnamed tributaries, ponds in wetlands, and gravel pit ponds. The project corridors also include two major irrigation ditches: Coulson Ditch, Miller McGirl Ditch, as well as numerous smaller side ditches. The Miller McGirl Ditch is located outside of the study area but receives waters from other ditches within the study area. The hydrology of the study area, including the irrigation systems and gravel pit ponds, is detailed in the Preliminary Location Hydraulic Study Report prepared by DOWL HKM (June 2011). **Exhibit 5** lists the major hydrology in the study area and the alternatives that intersect them.

Exhibit 5. Major Hydrology of the Study Area

Name	Project Section, Township (T), Range (R)	Туре	Alternatives	Preliminary Jurisdictional Determination*
Yellowstone River	Section 7 and 18 T1N, R27E	Perennial	All	Yes
Five Mile Creek	Section 12 T1N, R26E	Perennial	Johnson Lane Option 1 - Mary Street Option 2 and Johnson Lane Option 2 - Mary Street Option 2	Yes
Seven Mile Creek	Section 11 T1N, R26E	Perennial	Johnson Lane Option 1 – Five Mile Road and Johnson Lane Option 2 - Five Mile Road	Yes
Coulson Ditch	Section 19 T1N, R27E	canal	Johnson Lane Option 2 - Mary Street Option 1, Johnson Lane Option 2 - Mary Street Option 2, and Johnson Lane Option 2 - Five Mile Road	Yes
Miller McGirl Ditch	Section 7 T1N, R27E	canal	Johnson Lane Option 1 – Five Mile Road and Johnson Lane Option 2 - Five Mile Road	Yes

^{*} DOWL HKM 2011. Preliminary determination is provided by DEA according to connectivity or a significant nexus to traditional navigable waters of the US. Final determination will be by the USACE.

Water Quality

Section 303(d) of the Clean Water Act (CWA) and related regulations requires states to assess the condition of their waters to determine where water quality is impaired (does not fully meet standards) or threatened (is likely to violate standards in the near future). The result of this review is the 303(d) list. Section 303(d) also requires states to prioritize



and target water bodies on their list for development of water quality improvement strategies, e.g. total maximum daily loads (TMDLs), and to develop such strategies for impaired and threatened waters. The 303(d) list is defined by EPA as waters with Category 5 designations, i.e. "Waters where 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." These categories include:

- waters that are fully supporting all beneficial uses (Category 1),
- waters where available data and/or information indicate that some, but not all of the beneficial uses are supported (Category 2A),
- waters where available data and/or information indicate that a water quality standard is exceeded due to an apparent natural source in the absence of any identified anthropogenic sources (Category 2B),
- waters that have not been assessed or have insufficient data to evaluate their use support levels (Category 3), and
- waters where one or more beneficial uses have been assessed as being impaired or threatened, however, either all necessary TMDLs have been completed (Category 4A) or are not required (Category 4C) (MDEQ, 2010).
- waters where 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 (Category 5).

In the study area, the Yellowstone River is listed with a water quality Category 5 and 2B designation. The river's beneficial use support information indicates "fully supporting" agriculture and industrial use, but is "not supporting" aquatic life, drinking water, primary contact recreation, and warm water fishery. Impairment probable causes include natural source arsenic, agriculture and municipal source impacts to benthic-macroinvertebrates, dissolved oxygen saturation, excess algal growth, nutrient eutrophication, periphyton indicators, and suspended/bedload solids (MDEQ 2010). No other water bodies in the study area were included in the Water Quality Integrated Report 303(d) list or Section 305(b) Report.

Potential Impacts

Direct impacts to Yellowstone River, Five Mile Creek, and Seven Mile Creek would occur at bridge crossing locations. Bridge engineering and analysis of resulting water body modifications will be conducted during preliminary and final design.

Direct water quality impacts would be primarily related to construction. Construction actions could exacerbate the impaired condition of the Yellowstone River, destabilize the banks or cause erosion, contributing to decreased water quality, increased sedimentation, and increased water temperatures. These impacts would occur with varying intensity and duration during the phases of construction.

Indirect impacts to surface waters may occur due to changes in the hydrology of aquatic sites. Roads commonly affect how water and its various loads move through watersheds. Roads can disrupt natural flows of surface water and groundwater or create new routes



for the flow of water. Fill can increase on-site and off-site flooding. The presence of roads bisecting wetlands can disrupt water circulation patterns (Forman et al. 2003).

Indirect impacts to water quality are typically associated with clearing of vegetation and increased impervious surface. When areas adjacent to aquatic resources are left exposed as a result of cut and fills, sedimentation can occur. Because the proposed project would increase impervious surface through construction of new roads and widening of existing roads, stormwater runoff is likely to increase. The primary source of contaminants from transportation systems is runoff from impervious surfaces. Rainfall and snowmelt can carry sediments, animal and agricultural wastes, pesticides, fertilizers, heavy metals, hydrocarbons, road salts, and debris into creeks, wetlands, and waterways. Stormwater runoff can also result in water temperature increases in receiving waters. Additionally, hydrology may be changed with impervious surfaces preventing rainfall from percolating into the soil.

Avoidance and Minimization

The project team considered aquatic resources and water quality in the development of the conceptual design and routing of alternatives. Alternatives avoided water resources where practicable. Where impacts to the resources are unavoidable, impacts will be minimized through bridge and culvert design analysis and development of project alternatives. The final design will include water quality conservation measures and identify temporary and permanent impacts to aquatic sites. The proposed bridge designs would avoid and minimize impacts to the rivers, floodplain, and channel migration zone as practicable.

The potential and magnitude for the impacts to occur will be minimized with implementation of standard BMPs. Standard specifications and stream protection plans will be used during and after construction to reduce or eliminate water quality impacts. With the conservation measures described below, the project is unlikely to significantly adversely alter the aquatic sites and water quality.

- The Yellowstone River bridge crossings utilize two different superstructure types. To minimize the environmental impacts and the number of intermediate bents located in the active channel, multi-span composite steel plate girders were selected to cross the active channel. Outside of the active channel and for crossing the remainder of the floodplain, the span lengths were reduced and prestressed concrete girders were assumed. Five Mile Creek will have a single-span bridge crossing to avoid the creek. Seven Mile Creek Bridge on highway 312 will be improved. These designs will minimize potential impacts to surface waters and associated wetlands floodplains.
- The location and potential impacts from bridge piers, abutments, and culverts to surface waters will be assessed quantitatively and qualitatively in the EIS.
- In-water work for bridge construction should be scheduled during the low water levels to minimize impacts to river characteristics.
- Floodplain impact analysis will be conducted in the EIS to identify avoidance and minimization measures.



- The existing and proposed conveyances and anticipated in-stream work will be evaluated quantitatively to identify potential impacts within the bed and banks of the water bodies.
- A temporary erosion control plan will include provisions for post-construction revegetation of the disturbed road corridor with desirable species seed mix to minimize erosion. Stormwater pollution prevention plans will be incorporated as part of the final design.

Recommended Conservation Measures

Additional conservation measures for aquatic resources are not anticipated with the implementation of project avoidance and minimization measures.

Permitting Required

U.S. Federal regulations that may pertain to the proposed project include the CWA of 1972, Section 404 including the 2007 Rampanos/SWANCC Guidance, Section 401 (Water quality certification), Executive Order 11990 (Protection of Wetlands), and Executive Order 11988 (Protection of Floodplains).

Section 404 of the CWA requires approval prior to discharging dredged or fill material into the waters of the United States. The USACE administers the 404 program. Implementation of any of the build alternatives would require securing a Section 404 permit to authorize discharge of any dredged or fill material into the Waters of the U.S.

A nationwide permit is generally the simplest form of the 404 permits and authorizes a category of activities throughout the nation. These permits are valid only if the conditions applicable to the permits are met. If the conditions cannot be met, a regional or individual permit is required. Individual permits are more complicated and time consuming and are designed specifically for each project. They are subject to a public review period.

The Montana Stream Protection Act (SPA 124 notification) requires a notification for any agency proposing a project that may affect the bed or banks of any stream in Montana to protect and preserve fish and wildlife resources. This notification is administered by the Montana Department of Fish, Wildlife and Parks. Additional state regulations and associated permitting include Montana Natural Streambed and Land Preservation Act, Montana Floodplain and Floodway Management Act (Floodplain Permit), Montana Pollutant Discharge Elimination System (MPDES Permit), MDEQ 401 Certification and Source Water Protection, and construction permits.

4.2.2 General Aquatic Species

Species Present and Distribution

Thirty-three fish species have been confirmed as occurring within the project area in the Yellowstone River and Five Mile Creek. (MTFWP 2011). **Appendix C** lists the Yellowstone River and Five Mile Creek fish occurrences. The Seven Mile Creek flow to the Yellowstone River is interrupted by a flume and the Miller McGirl Ditch; no fish species are listed (MTFWP 2011). Fourteen of the species listed are classified by MTFWP as game fish, and fishing for these species is regulated. The rest of the species are classified as non-game and are not regulated. Two species are Montana Species of Concern: the sauger and



Yellowstone cutthroat trout described in **Section 5.0**. Two aquatic reptiles and two aquatic amphibians were observed in the study area.

The existing condition of the aquatic habitat has been reduced due to water quality concerns of the Yellowstone River, the proximity of agriculture, commercial, and residential disturbance.

Potential Impacts

Direct mortality to individual fish and larger aquatic amphibians and reptiles may occur during in-water work. Microinvertibrates and smaller, less mobile organisms may be directly impacted at ground disturbed or pier locations. The canals and ditches have limited potential impacts due to limited aquatic habitat.

During construction of the bridges and culvert placement, fish and other aquatic organisms may be temporarily disturbed and/or displaced.

Indirect impacts of the project to aquatic species could occur as a result of impacts to aquatic habitats through water quality concerns such as increased water temperature, pollutants, or habitat fragmentation. As runoff moves over warmed impervious surfaces, the temperature of the water rises and dissolved oxygen content decreases causing stress or mortality in aquatic organisms. Increased salinity, turbidity, and toxicity affect aquatic life and therefore the food web for fish species. The location of piers could fragment the Yellowstone River channel migration sites that provide habitat locations for fish, amphibians, reptiles, and the other many species that utilize aquatic sites and resources. A change in hydrology in some cases changes the movement of organisms, so much that the separated water bodies exhibit different ecological characteristics (Crance 1984).

Avoidance and Minimization

Impacts to aquatic species are not anticipated with the use of the bridge crossing and culvert designs for this project and the implementation of standard specifications and BMPs. Bridge crossings are planned for the fish bearing streams. Efforts to avoid and minimize impacts to aquatic species are anticipated to be achieved through avoidance and minimization measures to aquatic sites **Section 4.2.1**. Additional avoidance and minimization measures include:

- The bridge design optimizes the shape, size, number, and placement of pier locations in a manner that would maintain uninterrupted fish passage.
- In-water work for bridge construction should be scheduled during the low water levels to minimize spring spawning timelines.
- Adhere to Section 208 of MDT's Standard Specifications for Road and Bridge Construction (2006).
- Adhere to special conditions set forth by the resource agencies.

Recommended Conservation Measures

Additional conservation measures for aquatic species are not anticipated with the implementation of project avoidance and minimization measures.



5.0 Sensitive Species of Special Concern

5.1 METHODS

Species discussed in this part of the BRR have been documented by MTNHP (2011a and 2011b), and/or during field investigations. The regional MTFWP biologist provided further information regarding species presence in the study area (Begley, personal comm. 2011). Field investigations included search of preferred habitats of the species of concern to document occurrence by sight, song, and/or signs with photo documentation and mapping. Landowner accounts were incorporated. Existing habitat was documented and evaluated.

5.2 RESULTS

MTNHP and field investigations have documented a total of 19 potential sensitive species of special concern (species of concern) in the Yellowstone County, Billings East Quadrangle area (2011a). The quarter of a quarter Latitude/Longitude (QQLL) information provided by MTNHP covers an area of over 200 square miles. This larger database was used for species that have an extensive home range. Of these 19 species, 17 are likely to occur in the project area based on MTNHP Species Occurrence Data, probable occurrence based on habitat, and/or documented during DEA field investigations. **Exhibit 6** summarizes the species, ranks, habitat requirements, and occurrence in the project area. Species of concern that are federally listed are addressed in **Section 6.0**.

Exhibit 6. Species of Concern Documented in the Billings East Quadrangle, Yellowstone County

Common Name	Scientific Name	Global Rank	State Rank	Habitat Requirements	Occurrence in Project Area
Birds					
Bald eagle	Haliaeetus leucocephalus	G5	S3	Rivers, lakes, Riparian forest	P/D
Black-billed cuckoo	Coccyzus erythropthalmus	G5	S3B	Riparian forest	Р
Brewer's sparrow	Spizella breweri	G5	S2B	Sagebrush	P/D
Grasshopper sparrow	Ammodramus savannarum	G5	S3B	Grasslands	NL
Great blue heron	Ardea heodias	G5	S3	Riparian forest	P/D
Loggerhead shrike	Lanius Iudovicianus	G4	S3B	Sagebrush, mixed use	Р
Peregrine falcon	Falco peregrinus	G4	S2B	Cliffs	Р
Pinyon jay	Gymnorhinus cyanocephalus	G5	S3	Open conifer	NL
Veery	Catharus fuscescens	G5	S3B	Riparian forest	Р



Common Name	Scientific Name	Global Rank	State Rank	Habitat Requirements	Occurrence in Project Area
Mammals					
Hoary bat	Lasiurus cinereus	G5	S3	Riparian or forest near water sources	Р
Spotted bat	Euderma maculatum	G4	S2	Arid land rock outcrops	Р
Reptiles					
Common Sagebrush lizard	Sceloporus graciosus	G5	S3	Sagebrush steppe with rock outcrops	P/D
Greater short-horned lizard	Phrynosoma hernandesi	G5	S3	Sandy/gravelly soils of sparse arid sage or grasslands	Р
Milksnake	Lampropeltis triangulum	G5	S2	Rock outcrops, hillsides, badlands	Р
Snapping turtle	Chelydra serpentina	G5	S3	Small reservoirs and perennial small streams	D
Spiny softshell	Apalone spinifera	G5	S3	Prairie rivers & larger streams	Р
Western hog-nosed snake	Heterodon nasicus	G5	S2	Sagebrush, grasslands, arid farms or floodplains	Р
Fish					
Sauger	Sander canadensis	G5	S2	Large prairie rivers	NL
Yellowstone Cutthroat Trout	Oncorhynchus clarkii bouvieri	G4T2	S2	Cold rivers	NL

Source: MTNHP 2011

P = probable occurrence based on habitat D= Documented by DEA field studies

NL=Not likely

Definitions of Ranks:

G1 / S1 At high risk because of extremely limited and/or rapidly declining numbers, range, and/or habitat, making it highly vulnerable to global extinction or extirpation in the state.

G2 / S2 At risk because of very limited and/or declining numbers, range, and/or habitat, making it vulnerable to global extinction or extirpation in the state.



- G3 / S3 Potentially at risk because of limited and/or declining numbers, range, and/or habitat, even though it may be abundant in some areas.
- G4 / S4 Uncommon but not rare (although it may be rare in parts of its range), and usually widespread. Apparently not vulnerable in most of its range, but possibly cause for long-term concern.
- G5 / S5 Common, widespread, and abundant (although it may be rare in parts of its range). Not vulnerable in most of its range.

Species Descriptions

Summaries of the Montana Species of Concern that have been documented in Billings East Quadrangle, Yellowstone County are provided in the following section of the BRR. Information is referenced primarily from the Montana Field Guide (MTNHP and MTFWP 2011) and the MTNHP GIS (Geographic Information System) geodatabase (MTNHP 2011a).

5.2.1 Bald Eagle

The bald eagle was removed from ESA protection in 2007. This species is still protected by the Bald and Golden Eagle Protection Act and is a Montana Species of Concern. The Bald Eagle is a year-round resident in forested, mountainous areas of Montana. However, some may move to the more temperate weather of lower elevations or to other areas with higher concentrations of food (Montana Bald Eagle Working Group 1994). This is especially true of individuals that nest at higher elevations.

The bald eagle occurs primarily in riparian and lacustrine habitats (forested areas along rivers and lakes), especially during the breeding season. Important year-round habitat includes wetlands, major water bodies, spring spawning streams, ungulate winter ranges, and open water areas. Wintering habitat may include upland sites. Nesting sites are generally located within larger forested areas near large lakes and rivers where nests are usually built in the tallest, oldest, large diameter trees. Nesting site selection is dependent upon maximum local food availability and minimum disturbance from human activity (Montana Bald Eagle Working Group 2010).

Bald eagles consume primarily fish but will also take waterfowl, carrion, and small mammals in the winter. Nests are very large structures, usually reused for many years (Baicich and Harrison 1997). The most common nest trees are ponderosa pine, Douglas fir, and cottonwood. Nest building dates in Montana begin as early as December and fledging may continue through August (USFWS 2007). In Montana, seasonal restrictions occur from approximately February 1 through August 15 (Montana Bald Eagle Working Group 2010).

Bald eagles have been sighted regularly in the study area as breeding birds, winter migrants, and transients (MTNHP 2011b). Bald eagles were observed along the Yellowstone River and Five Mile Creek by DEA biologists and by landowner accounts. 2010 bald eagle nest locations provided by MTFWP were located about 1.5 miles downstream of the project and another about 0.61miles upstream, in closest proximity to the Johnson Lane Alignment Option 2. Several bald eagles were observed during the August field investigation dates at a communal roosting snag tree near the Yellowstone River at the intersection of the Johnson Lane Option 1 and Johnson Lane Option 2 alignments and a single roosting site north of the Yellowstone River and west of the Five Mile Road and Mary Street Option 2 alignments. Both were within 500 feet of the alignments.



5.2.2 Black-Billed Cuckoo

The black-billed cuckoo is a grayish-brown cuckoo with a dark mandible. Black-billed cuckoos typically arrive in Montana from early to mid June and depart before October. It is a summer resident and a nocturnal migrant. In Montana, they are found most often in riparian areas with a shrubby understory. They also occur in foothill deciduous woodlands. Diet consists of insects such as caterpillars, crickets, grasshoppers, and butterflies. Also included are mollusks, fish, small vertebrates, and fruits. Their populations have been correlated to tent caterpillar populations (MTNHP and MTFWP 2011).

There has been one sighting of the black-billed cuckoo in the project area on June 20, 2009. The sighting was of indirect breeding evidence west of the study area near Billings Bench gravel pit pond, east of Barnet Road, about 0.1 mile west of the Yellowstone River (MTNHP 2011b). The riparian habitat along the Yellowstone River meets the habitat requirement for this species. None were documented during DEA field investigations.

5.2.3 Brewer's Sparrow

Brewer's sparrows migrate into Montana in mid to late May and leave in mid-August (Skaar 1969). They generally nest in sagebrush in Montana (Best 1970). Brewer's sparrows eat mostly insects (grasshoppers and beetles) and a smaller percentage of grass seeds. In central Montana, most nests were found between 6 to 8 inches above the ground in big sagebrush plants (MTNHP and MTFWP 2011).

Brewer's sparrows have been sighted in the project area, during the Landbird Monitoring Program with indirect breeding evidence (MTNHP 2011b). The sagebrush steppe areas in the study area are suitable habitat for Brewer's sparrow. They were documented during field investigations by DEA biologists in these areas and were likely breeding populations.

5.2.4 Grasshopper Sparrow

Grasshopper sparrows occur in open prairies with intermittent brush. Its diet consists of insects and grasshoppers in the summer and grasses and seeds in the winter. This migratory sparrow occurs in Montana mid-April to mid-July. They nest and forage mostly on the ground (MTNHP and MTFWP 2011).

Grasshopper sparrows have been documented in the project area, during the Landbird Monitoring Program with indirect breeding evidence (MTNHP 2011b). The habitat in the study area has limited habitat for the grasshopper sparrow due to lack of native prairieland; thus, it is not likely that grasshopper sparrows occupy the study area. None were documented during DEA field investigations.

5.2.5 Great Blue Heron

The great blue heron is a year-round resident through most of Montana. They are a fairly common permanent resident. They are found in wetlands in residential and wilderness settings. Most Montana nesting colonies are in cottonwoods along major rivers and lakes. A smaller number occur in riparian ponderosa pines and on islands in prairie wetlands. Nesting trees are the largest available. Great blue herons consume mostly fish but also amphibians, invertebrates, reptiles, mammals, and birds. Breeding season begins in March and fledging occurs by mid-August (MTNHP and MTFWP 2011). Most studies recommend



a minimum of about 900 feet for a buffer zone from the periphery in which no human activity should take place during courtship and the nesting period between February 15 and July 31 (Cuthrell 2004).

Great blue herons have been regularly sighted in the project area in agricultural areas, wetlands, and along the Yellowstone River. MTFWP identified a heron rookery within the study area and near the south crossing of the Yellowstone River. However, this rookery was not confirmed by DEA biologists.

5.2.6 Loggerhead Shrike

Loggerhead shrikes migrate to Montana primarily in May and depart in August. This species occurs in native grassland communities with shrub components as well as fallow fields and roadsides. They eat primarily insects but also consume amphibians, small reptiles, small mammals, and birds. Often observed on wire fence lines, it uses barbed wire, thorns, and forks of a branch to hold large prey (Yosef 1996). Loggerhead shrikes are similar in appearance to Northern Shrikes (*Lanius excubitor*) but the base of the lower mandible is black instead of pale (MTNHP and MTFWP 2011).

A loggerhead shrike was sighted in the project area in 2002, during the Landbird Monitoring Program with indirect breeding evidence (MTNHP 2011b). Although there is suitable habitat for loggerhead shrike in the study area, none were documented by DEA biologists.

5.2.7 Peregrine Falcon

Peregrine falcons are migratory birds arriving in Montana in late April to early May and departing in August to early September. Nests are typically located on ledges of vertical cliffs, ideally in undisturbed areas with a wide view, near water, and close to prey sources. They will sometimes nest on man-made substitutes for cliffs such as tall buildings, bridges, rock quarries, and raised platforms (MTNHP and MTFWP 2011). Peregrine falcons feed primarily on birds (medium-size songbirds to small waterfowl) and may hunt up to several kilometers from their nest site (Skaggs et al. 1988). The nesting period is estimated to be June and July (Davis 1961). The peregrine was removed from the federal endangered species list in 1999.

There is a peregrine falcon eyrie (i.e., nest) at the Sacrifice Cliff area, about 5 miles upstream from the project (MTNHP 2011b). The study area is within their hunting range.

5.2.8 Pinyon Jay

Pinyon jays are small-medium jays and are crestless. Adult plumage is entirely dull blue. This jay is a year-round resident of southeast Montana and may be nomadic. In Montana, they occur in low-elevation ponderosa pine and limber pine-juniper woodlands. They are generally omnivorous, with pine seeds an important component of their diet. They also consume wild fruits, agricultural grains, arthropods, lizards, snakes, and nestling birds or small mammals. These jays are rarely seen individually and often nest in colonies (MTNHP and MTFWP 2011).

Pinyon jays have been sighted most commonly about 5 miles southwest of the project in the Sacrifice Cliff area (MTNHP 2011b). Generally there is a lack of conifers in the study



area, except a location near the mouth of Five Mile Creek. No pinyon jays were documented during DEA field investigations.

5.2.9 *Veery*

This thrush is migratory and is found in Montana mid-April through mid-September. It has a strong preference for riparian habitats in the Great Plains. In Montana, veerys are often associated with willow thickets and cottonwoods along streams and lakes in valleys and lower mountain canyons. The veery is primarily a ground forager, with a diet including insects and fruit. It is heavily parasitized by brown-headed cowbird (MTNHP and MTFWP 2011).

There is one documented sighting in 1991 at the Billings Riverfront Park, about 4 miles from the project (MTNHP 2011b). However, the entire riparian habitat along the Yellowstone River meets the habitat requirement for this species. None were heard or seen during DEA field investigations.

5.2.10 Hoary Bat

Hoary Bat is the largest bat species found in Montana (35 g in weight, to about 140 mm in total length). It is migratory and only a summer resident in Montana, with records from early June through September occupying forested areas. This bat appears to be solitary, roosting primarily in trees. Roosting may occur in manmade structures. Often occurring over water sources within forested terrain, both conifer and hardwood, as well as along riparian corridors, hoary bats are reported in Montana over a broad elevation range. They favor moths, beetles, other flying bugs and the much smaller bats (MTNHP and MTFWP 2011). Hoary bats breed in autumn, possibly during migration and give birth middle of May into early July (Anderson 2002).

The hoary bat was observed southwest of Huntley in 2005 (MTNHP 2011b). The riparian habitat along the Yellowstone River and Five Mile Creek meets the habitat requirement for this species. None were heard or seen during DEA field investigations.

5.2.11 Spotted Bat

Spotted bats have been documented most frequently in open arid habitats dominated by Little Utah juniper (*Juniperus osteosperma*) and sagebrush (*Artemisia tridentata* and *A. nova*), sometimes intermixed with limber pine or Douglas-fir, or in grassy meadows in ponderosa pine savannah (Fenton et al. 1987, Worthington 1991, Hendricks and Carlson 2001). Cliffs, rocky outcrops, and water are other characteristics of sites where spotted bats have been documented (Foresman 2001). Spotted bats roost in caves and in cracks and crevices in cliffs and canyons (van Zyll de Jong 1985). This bat is insectivorous feeding primarily on moths (Barbour and Davis 1969). Little is known about breeding behaviors of spotted bats. Juveniles have been caught in mist nets in July and lactating females have been caught as late as August (Anderson 2002).

The spotted bat was observed mostly at the Billings Riverfront Park, about 4 miles from the project area (MTNHP 2011b). The cliff areas along the Yellowstone River and Five Mile Creek meet the habitat requirement for this species. None were documented during DEA field investigations.



5.2.12 Common Sagebrush Lizard

The common sagebrush lizard is a year-round resident of southeast Montana. It is small and narrow with small spiny, keeled scales on the back and a pale dorsolateral stripe on each side. Males have blue lateral abdominal patches and mottling on the throat. This species occurs in sagebrush steppe habitats with rock outcrops. It uses rodent burrows, shrubs, logs, and rocks for cover. Although a ground dweller, this lizard will perch up above ground in low shrubs and trees. This invertivore consumes mostly ants, beetles, and moths. It is diurnal and active above ground from early May through mid-September. It is predated by snakes, lizards, and birds (Hammerson 1999).

This species has been observed in the project area in suitable habitat (MTNHP 2011b). The sagebrush steppe areas in the study area are suitable habitat for this species. They were documented during field investigations by DEA biologists in these areas and in an irrigated cropland site.

5.2.13 Greater Short-horned Lizard

The greater short-horned lizard is a year-round resident of eastern Montana. It is broad and flattened with a single row of scales fringing each side of the body and the back of the head. Coloration is cryptic. This species occurs in sparse, short grass and sagebrush in coulees and canyons with stone and sun-baked soil. It consumes mostly ants and beetles. Adult lizards are diurnal and active above ground from mid-April to mid-September. It is predated by snakes and birds (Hammerson 1999).

This species has been observed in the project area in suitable habitat of the project area (MTNHP 2011b). The drainage areas of the sagebrush steppe areas in the study area are suitable habitat for this species. However, they were not documented during field investigations by DEA biologists.

5.2.14 Milksnake

The milksnake is a year-round resident of southeast Montana. The body of the milksnake is marked with wide whitish, black, and reddish/orange banded in black. Milksnakes have been reported in areas of open sagebrush-grassland habitat (Dood 1980) and most often in or near areas of rocky outcrops and hillsides or badland scarps, sometimes within city limits. Milksnakes are carnivorous consuming mostly small vertebrates, including snakes, lizards, reptile eggs, birds, bird eggs, small mammals (especially mice), and occasionally insects and worms (Hammerson 1999). Milksnakes are mostly crepuscular and nocturnal. In Montana, they are active from late May to October. Predators are largely unknown in Montana, but milksnakes exhibit predator defense behavior, and rear up and strike, or vibrate the tail, when disturbed, although they are usually docile when handled (MTNHP and MTFWP 2011).

There are few recent milksnake records for Montana. The milksnake was historically present in the southeast portion of the project area, but there has been no recent observation there. Current sightings have been about 4 miles outside of the project area near the cliffs of Alkali Creek, rimrock area, and the Exxon Mobile refinery (MTNHP 2011b). There is suitable habitat in the study area for this species. However, they were not documented during field investigations by DEA biologists.



5.2.15 Spiny Softshell

Native populations of the spiny softshell turtle occur in Montana east of the Continental Divide in the Missouri River and Yellowstone River drainages, and some principal tributaries (Maxwell et al. 2003). Spiny softshells are isolated in Montana from the remainder of the global population. They primarily occupy large rivers and their tributaries, but are also found in lakes, ponds along rivers, bayous, irrigation canals, oxbows, and pools along intermittent streams. They spend winter burrowed into the bottoms of permanent water bodies. They are considered to be generalist carnivores and usually feed on the bottom. Major foods include crayfish, aquatic insects, and fish. Eggs are laid primarily in the second half of May through June. Clutch size averages 20-40 eggs but may be as few as 6 or as high as 109 (Hammerson 1999).

The spiny softshell has been observed in the Riverfront Park and the Yellowstone River (MTNHP 2011b). In the study area, there is suitable habitat along the Yellowstone River for this species. However, they were not documented during field investigations by DEA biologists.

5.2.16 Snapping Turtle

Snapping turtle habitat studies are lacking and there is little quantitative information available. They been captured or observed in backwaters along major rivers, at smaller reservoirs, and in smaller streams and creeks with permanent flowing water and sandy or muddy bottoms. They are mostly bottom dwellers; however, they may make long movements. Snapping turtle diets have not been studied in Montana, but they are known to eat about anything that can be captured (fish, amphibians, reptiles, aquatic birds, small mammals, invertebrates, and carrion). They are mostly nocturnal and hibernate October until April. In northern regions, eggs are generally deposited in late May to early June, but incur high rates of nest predation by widespread predators such as raccoon, skunk, fox, crows, snakes, otters, herons, fish, and bullfrogs (Congdon et al. 1987, Hammerson 1999, Hendricks 1999).

A single snapping turtle was observed by a landowner a few years ago at his gravel pit pond near Mary Street There is suitable habitat in the project area for this species. However, they were not documented during field investigations by DEA biologists.

5.2.17 Western Hog-Nosed Snake

The western hog-nosed snake has been found in a variety of habitats including sagebrush-grassland habitat (Dood 1980), near pine savannah in grassland underlain by sandy soil (Reichel 1995, Hendricks 1999), in arid areas, farmlands, and floodplains, particularly those with gravelly or sandy soils. They occupy burrows or dig into soil, and, less often, are found under rocks or debris during periods of inactivity (Hammerson 1999, Stebbins 2003). MTNHP (2011a) reports element occurrences near Billings.

The western hog-nosed snake has been observed in suitable habitat near the project area (MTNHP 2011b). There is suitable habitat in the study area for this species. However, they were not documented during field investigations by DEA biologists.



5.2.18 Sauger

The sauger is a highly prized sport fish native to Montana east of the Continental Divide. It is mainly a river fish but it inhabits turbid waters of large rivers and reservoirs. In the spring, sauger broadcast their spawn in gravelly or rocky areas over riffles in shallow water and seem to prefer turbid water. Spawning is often accompanied by migration upstream and/or into tributary streams in the spring. Long migration occurs in the Yellowstone and Missouri rivers. The Tongue and Powder rivers are vital spawning areas for the Yellowstone River population. Billings is the west extent of their range in the Yellowstone River. Their major food items are insects and small fish (MTNHP and MTFWP 2011).

The sauger has been documented in the Yellowstone River (MTFWP 2011). The bulk of this fishery exists downstream of Huntley, MT. Recent information suggests the sauger in this area are genetically unique from sauger in the Bighorn River and in the Yellowstone below the confluence of the Bighorn River. The study area may have spawning areas within the Yellowstone River channels or Five Mile Creek.

5.2.19 Yellowstone Cutthroat Trout

The Yellowstone cutthroat trout has a golden coloration, two prominent red slashes on the lower jaw, and medium-large, black spots that tend to be concentrated posteriorly. They are native to the Yellowstone River drainage of southwest and south-central Montana. Pure, un-hybridized populations are limited to some headwaters streams and Yellowstone National Park. Yellowstone cutthroat trout are used extensively for mountain lake stocking on the east slope of the Rocky Mountains and in the Absaroka-Beartooth Wilderness. Life histories are resident, fluvial, and adfluvial (MTNHP and MTFWP 2011).

Yellowstone cutthroat trout are stocked in Lake Elmo located about ½ mile west of the Mary Street and US 87 interchange outside of the study area and in parts of the Yellowstone River (MTFWP 2011). Yellowstone cutthroat trout would be rare in the project area and unlikely to occur. Historically, Yellowstone cutthroat trout likely spawned in the Yellowstone River, but well upstream of Billings. Currently they are relegated to headwater areas, which are not present in the study area (Ruggles 2011).

5.3 POTENTIAL TO OCCUR IN THE PROJECT AREA

Species of concern that have the potential to occur in the project area are listed in **Exhibit 6**.

5.4 POTENTIAL IMPACTS

Because the grasshopper sparrow and pinyon jay are highly unlikely to occur in the project area, no impacts to these species are anticipated.

The Brewer's sparrow and greater short-horned lizard have specific habitat requirements that are present in the study area, but have been avoided in the alignment alternatives. Therefore, no impacts to these species are anticipated.

Generally for the other species of concern that may occur in the project area and study area, the types of direct impacts would be similar to those described for general wildlife in **Section 3.2.4** The peregrine falcon and bald eagle, whose nesting areas are located



away from the project corridor, may potentially experience temporary disruption in foraging and roosting locations during construction.

Species that inhabit primarily developed or agriculture areas (loggerhead shrike, common sagebrush lizard, milksnake, and western hog-nosed snake) and that are adapted to human use when nesting or denning, will have suitable habitat available outside of the project area. However, direct mortality may occur to those unable to disperse during construction, such as reptiles that burrow. The loss of some individuals should have little or no effect to the overall population of these species; this effect is considered discountable.

The species that utilize the Yellowstone River corridor such as the spiny softshell, snapping turtle, and sauger would incur negligible direct impacts, due to the bridge crossings. The locations of sauger spawning areas in the study area have not been identified therefore there is potential for disruption of spawning locations. Construction timing to avoid spawning activity might be important for the sauger, which is a spring spawner. Overall this project is not anticipated to negatively affect sauger (Ruggles 2011). The Yellowstone cutthroat spawning areas are in the Yellowstone River headwaters, outside of the project area, and negative impacts are not anticipated.

Where riparian areas, wetlands, or ditches are impacted by the project, direct mortality may affect tree nesting or breeding species such as the black-billed cuckoo, great blue heron, veery, and hoary bat and other small and less mobile species that would not be able to disperse out of the construction zone (small burrowing animals, hibernating reptiles, and amphibians).

The nearby heron rookery, if active, may be impacted during the construction period.

The closest eagle nest is 0.61 miles from the project construction limits. No impacts to eagle nests are anticipated. However, roosting and foraging locations may be impacted during construction.

Indirect impacts would include loss of some habitat, fragmentation, and potential degradation of habitats.

Avoidance and Minimization

Efforts to avoid and minimize impacts to species of concern are anticipated to be achieved through avoidance and minimization measures identified for terrestrial resources, **Section 3.0**, and aquatic resources, **Section 4.0**.

Recommended Conservation Measures

Implementation of the Recommended Conservation Measures for general wildlife species, particularly in regard to MBTA and the Bald and Golden Eagle Protection Act, will avoid the majority of breeding schedules addressed in this section. Complying with the resource agencies' conditions would avoid or minimize impacts to aquatic species.

The location of the nests and communal roosting sites needs to be verified by a preconstruction survey or coordination with resource agencies or organizations. Blasting within $\frac{1}{2}$ mile of active nests should be avoided (USFWS 2007). The current nest locations are outside of this buffer area and road construction buffer limits (660 feet).



However, if a new bald eagle nest is located within ½ mile of the project, informal consultation with the USFWS should be initiated.

Blasting within $\frac{1}{2}$ mile of communal roosting sites may not be conducted without prior coordination of the USFWS and MTFWP (USFWS 2007). The existing roosting sites are within $\frac{1}{2}$ mile of the alignment corridor. Coordination of the USFWS and MTFWP is required if blasting is to occur near these roosts.

The location of the heron rookery needs to be verified by a pre-construction survey or coordination with resource agencies or organizations. If it is located within the 900-foot recommended buffer area, coordination with MTFWP should be completed to avoid potential impacts during the March to mid–August breeding season.

6.0 Threatened and Endangered Species - Biological Assessment

6.1 INTRODUCTION

The ESA directs federal agencies to ensure that their actions are not likely to jeopardize the existence of any threatened, endangered, or candidate species, or result in the destruction or modification of their critical habitat. Section 7 of the ESA requires federal agencies to consult with the USFWS on actions that may affect listed species. MDT is responsible for Section 7 consultation for this project on behalf of the lead federal agency, the FHWA. This biological assessment represents MDT's analysis of the anticipated effects of the proposed action on listed species. This assessment will also serve as the basis for the threatened and endangered species existing conditions and environmental consequences sections of the EIS for this project in compliance with the National Environmental Policy Act. The effects analyses do not vary by Alternative. Under the No Build Alternative there would be no effect on any threatened and endangered species. Of the four species listed as Endangered, Threatened, Proposed and/or Candidate species by the USFWS for Yellowstone County (Appendix A), three species are analyzed below whooping crane (Grus americana), Greater sage-grouse (Centrocercus urophasianus), and Spragues's pipit (Anthus spragueii). The black-footed ferret (Mustela nigripes) is not addressed in this biological assessment, because the last observation near the project area was in 1949 (MTNHP 2011b) and suitable habitat and prey (prairie dogs) are not located in the project area.

Summaries of the federally listed species of Yellowstone County are provided in **Exhibit 7** and the following sections. Information is referenced primarily from the *Montana Field Guide* (MTNHP and MTFWP 2011) and the MTNHP GIS geodatabase (MTNHP 2011a).

Exhibit 7. Federally Listed Species in the Project Area

Common Name	Scientific Name	USFWS Status	Occurrence in Project Area	Project Effect Determination
Whooping crane	Grus americana	Listed Endangered	Potentially during migration	Not likely to adversely affect



Common Name	Scientific Name	USFWS Status	Occurrence in Project Area	Project Effect Determination
Greater sage- grouse	Centrocercus urophasianus	Candidate	Unlikely	Not likely to significantly impact populations, individuals, or suitable habitat
Spragues's pipit	Anthus spragueii.	Candidate	Unlikely	Not likely to significantly impact populations, individuals, or suitable habitat

6.2 WHOOPING CRANE

6.2.1 Species Description

The whooping crane is a large white crane that inhabits wetlands and upland grain fields. It is the tallest bird in North America, about 5 feet in height. The sexes appear similar, snowy white with black and red on the crown, nape, and cheek. The primaries are black. Whooping cranes do not reach sexual maturity until 4 or 5 years of age and only fledge one chick per year. They nest in marshes and feed on insects, minnows, crabs, clams, crayfish, frogs, rodents, small birds, and berries. They associate with sandhill cranes and waterfowl (MTNHP and MTFWP 2011).

6.2.2 Status and Distribution

The whooping crane has been listed as endangered since March 11, 1967 (USFWS 2011b). The species also has an experimental non-essential designation in some areas, but none apply within Montana. A recovery plan was completed in 1994. Critical habitat was designated in 1978; Montana is not included within the designation (MTNHP and MTFWP 2011).

The entire wild breeding population breeds in Wood Buffalo National Park in Canada. This population winters at Aransas National Wildlife Refuge on the Texas coast. A smaller non-migratory population exists near Orlando, Florida. There are also captive flocks of whooping cranes. The total known population of wild and captive whooping cranes in July, 2010 was 535 (USFWS 2011b).

6.2.3 Reason for Decline

Conversion of habitat to agriculture was the primary factor in the decline of the whooping crane (USFWS 2011b). Prairie potholes and prairie were converted to hay and grain production, which were unsuitable for whooping cranes. Collision with rural power lines is also thought to have contributed to a substantial number of crane deaths. Currently, reproductive characteristics of whooping crane make recovery difficult. The species displays delayed sexual maturity, small clutch size, and low recruitment. The only breeding population is in a northern location, decreasing the available time period for reproduction. Migration hazards can be important when the population size is so small. Migrating birds face collision with obstructions, predators, disease, shooting, and



hurricanes. Their primary wintering location is along one of the heaviest barge traffic waterways in the world making the population susceptible to an oil spill.

6.2.4 Occurrence in Project Area

This species migrates through eastern Montana. Most observations have occurred in April and October. Whooping Cranes were documented in April 2010 near the Huntley interchange, about 9 miles east of the project. No whooping cranes were observed during field visits in the project area. Habitat that could be used during migration by whooping cranes is present in the project area. However, use of these areas would be infrequent and brief during migration.

6.2.5 Effects of the Action

The proposed project could have negligible effects on whooping crane. Only brief, rare use of the project area is likely during migration. There would be a slight decrease in potential habitat for migrating cranes due to construction of the roadway and a slight increase in potential disturbance or avoidance from construction. Because the potential for cranes to use the project area is very slight, the effects on the species from the project are discountable.

6.2.6 Recommended Conservation Measures

No conservation measures are likely to be necessary. However, if any cranes are observed in or adjacent to the project area during construction, work would be halted and MDT would contact the USFWS. Migration peaks are in April and October.

6.2.7 Effect Determination

Because it has some limited potential to briefly occur in the project area, the proposed project may affect, but is not likely to adversely affect, whooping crane.

6.3 GREATER SAGE-GROUSE

6.3.1 Species Description

The greater sage-grouse is the largest of Montana's grouse. They have relatively long, pointed tails, feathered legs, and mottled gray-brown, buff, and black plumage. Blackish bellies contrast sharply with white under-wing coverts while in flight. Males have a blackish-brown throat patch and an inconspicuous yellow eye comb. Females appear to dip from side to side while flying. Adult males range from 26 to 30 inches in length and average 4 to 7 pounds in weight; adult females range from 19 to 23 inches in length and 2.5 to 3.5 pounds in weight (USFWS 2011a).

They are a year-round resident of Montana. Sagebrush is the preferred habitat. They use sagebrush covered benches in June to July (average 213 acres); move to alfalfa fields (144 acres) or greasewood bottoms (91 acres) when forbs on the benches dry out; and move back to sagebrush (average 128 acres) in late August to early September (Peterson 1969).



6.3.2 Status and Distribution

On March 5, 2010, the U.S. Fish and Wildlife Service determined that the greater sage-grouse warrants protection under the ESA. The listing is as a candidate species. However, listing the species under the Act is precluded by the need to address other listing actions of a higher priority. Currently, greater sage-grouse are found in Washington, Oregon, Idaho, Montana, North Dakota, eastern California, Nevada, Utah, western Colorado, South Dakota, and Wyoming and the Canadian provinces of Alberta and Saskatchewan (USFWS 2011a).

6.3.3 Reason for Decline

Greater sage-grouse occupy approximately 56 percent of their historical range (USFWS 2011a). Grazing and agricultural development led to a 50 percent decrease in populations by the 1930s (Mussehl 1971). Evidence suggests that habitat fragmentation and destruction across much of the species' range has contributed to significant population declines over the past century. These birds cannot survive in areas where sagebrush no longer exists, and distribution has contracted due to loss of sagebrush habitat (USFWS 2011a).

6.3.4 Occurrence in Project Area

Individual greater sage-grouse and their leks have been documented over two miles west of the project area in suitable habitat (MTNHP 2011b). It is unlikely that greater sage-grouse occur in the project area due lack of quality, suitable habitat. Sagebrush areas in the project area are limited to isolated, small locations. The project alignment corridor does not contain sagebrush steppe habitat. It is predominantly developed or agricultural land unsuitable for the greater sage-grouse.

6.3.5 Effects of the Action

The greater sage-grouse does not occur in the project area. Suitable habitat is located outside of the study area. Therefore, the action will not affect the sage-grouse.

6.3.6 Recommended Conservation Measures

No conservation measures are necessary.

6.3.7 Effect Determination

The project is not likely to significantly impact populations, individuals, or suitable habitat of the greater sage-grouse.

6.4 SPRAGUE'S PIPIT

6.4.1 Species Description

The Sprague's pipit is endemic to grasslands. It is a pale, slender, sparrow-sized bird with white outer tail feathers, a thin bill, pale legs, and a heavily streaked back. The sides of the head and eye rings are pale and buffy. The bird is secretive and flies away in a long, undulating flight and only lands on the ground. It exhibits circular song-flight displays



around its territory with its white conspicuous outer tail feathers spread. The Sprague's pipit arrives in Montana in early May and breeds shortly thereafter. Sprague's pipit nests have been recorded from May through August. The Sprague's pipit prefers native, medium to intermediate height prairie. It is significantly more abundant in native prairie than in exotic vegetation. The primary summer food item is insects, while seeds are consumed during the fall. The species has been shown to be area sensitive, requiring relatively large areas of appropriate habitat. A minimum size requirement is thought to vary from 70 to 360 acres [50 CFR Part 17].

6.4.2 Status and Distribution

On September 14, 2010, the U.S. Fish and Wildlife Service determined that the Sprague's pipit warrants protection under the ESA as a candidate species. However, listing the species under the Act is precluded by the need to address other listing actions of a higher priority.

It breeds in the north-central United States in Minnesota, Montana, North Dakota, and South Dakota as well as south-central Canada. Wintering occurs in the southern States of Arizona, Texas, Oklahoma, Arkansas, Mississippi, Louisiana, and New Mexico (USFWS 2011c).

6.4.3 Reason for Decline

Sprague's pipits avoid unsuitable landscape features in breeding territories. Threats include loss of habitat, habitat fragmentation on the breeding grounds, and inadequacy of existing regulatory mechanisms. Approximately two percent of the species' historical U.S. range remains in potentially suitable habitat for the pipit [50 CFR Part 17].

6.4.4 Occurrence in Project Area

Migrating populations occur in south Montana and breeding occurrences are generally north of the Yellowstone River through south Canada. There is no breeding evidence in Yellowstone County (MTNHP and MTFWP 2011). Sprague's pipit is unlikely to occur in the project area. There are no reported species occurrences in the project area. There were no observations during field investigations. Suitable habitat in the form of large tracts of native medium to intermediate height prairie is not present ion the project area.

6.4.5 Effects of the Action

Sprague's pipit is not known or likely to occur in the project area. Preferable habitat is not located near the project area. Therefore, the action will not affect Sprague's pipit.

6.4.6 Recommended Conservation Measures

No conservation measures are necessary.

6.4.7 Effect Determination

The project is not likely to significantly impact populations, individuals, or suitable habitat of the Sprague's pipit.



7.0 Wetlands

7.1 INTRODUCTION

The objectives of this analysis are to:

- Determine the presence and extent of wetlands in the study area;
- Document and quantify functions and values of wetlands in the study area; and
- Document and quantify the functions and values of wetland habitats in the study area as the basis for potential habitat for fish, wildlife, species of special concern, and threatened and endangered species.

The USACE and Environmental Protection Agency (EPA) jointly define wetlands as: "Those areas that are inundated or saturated by surface or ground water 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."

Wetlands have three general diagnostic characteristics:

- Hydrophytic vegetation;
- · Hydric soils; and
- Wetland hydrology.

Wetlands provide a number of important and beneficial functions. During periods of heavy rainfall, wetlands serve as flood storage areas, where water can dissipate without damage to developed uplands. As the water passes through the wetlands, pollutants are filtered out. Wetlands also stabilize shorelines, thereby preventing the harmful effects of erosion. Wetlands produce the basic food material used by fish and aquatic life. Some wetlands also serve as nursery grounds for fish and rookery areas for birds. Many wildlife species, some of which are threatened or endangered, need to live in wetlands for all or part of their life.

The USACE (2007) memorandum which addresses jurisdiction over waters of the United States under the Clean Water Act asserts agency jurisdiction over the following waters:

- Traditional navigable waters
- Wetlands adjacent to traditional navigable waters
- Non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (typically three months)
- Wetlands that directly abut such tributaries.

The agencies will decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with a traditional navigable water:

Non-navigable tributaries that are not relatively permanent



- Wetlands adjacent to non-navigable tributaries that are not relatively permanent
- Wetlands adjacent to but that do not directly abut a relatively permanent nonnavigable tributary

The agencies generally will not assert jurisdiction over the following features:

- Swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow)
- Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water

In this BRR all wetlands are documented whether or not they have connectivity, abut, or are adjacent to potentially jurisdictional waters; and if these waters are relatively permanent or not relatively permanent. The USACE will determine whether the wetlands are under their jurisdiction.

7.2 METHODS

Both preliminary research and a site-specific investigation were conducted to determine the presence of wetlands. Existing information was reviewed prior to the field investigation to develop background knowledge of physical features and to identify the potential for wetland occurrence in the study area. Preliminary information related to topography, drainage, and water features was obtained from the following resource documents:

- Natural Resources Conservation Service (NRCS) Soil Survey Geographic Database (SSURGO) Database, Yellowstone County, Montana, (NRCS 2011)
- USGS Topographic Maps, 7.5 minute Quadrangles (USGS 2011)
- Aerial Photography for Yellowstone County, USDA Farm Services Agency (FSA), Aerial Photography Field Office, (USDA - FSA 2009)
- National Wetland Inventory (NWI) mapping (NRIS 2011)

Biologists from DEA conducted wetland delineations to identify and document the presence and extent of wetlands and waters of the U.S. The area surveyed for wetlands is shown on the Wetland Maps in **Appendix D**. The wetland survey area is approximately 100 feet beyond the anticipated construction limits of the project. The survey area was expanded in several locations to account for the conceptual level of design at this point in the project.

Delineations were completed using the routine (on-site) methodology and criteria in accordance with the *Corps of Engineers Wetlands Delineation* Manual (Environmental Laboratory 1987) and subsequent *Regional Supplement Great Plains Region, Version 2.0* (USACE 2010). These methods require that evidence of three parameters (a dominance of hydrophytic vegetation, hydric soils, and wetland hydrology) be simultaneously present for a wetland determination.

At least one pair of data plots was conducted for each potential wetland. Field notes and photographs documented existing conditions. DEA completed routine wetland determination forms for each data plot identifying information on vegetation, soils, and



hydrology. Areas with evidence of all three parameters were identified as wetlands. DEA surveyed wetland boundaries using a Trimble Global Positioning System (GPS) GeoXT.

During field investigations, biologists reviewed wetlands delineated in the study area in 2007 that used the *1987 Delineation Manual* (prior to the *Great Plains Regional Supplement*). Biologists documented any changes in wetland vegetation, nearby land use changes that could affect hydrology or disturb other wetland characteristics, and confirmed wetland delineation boundaries.

Vegetation

DEA biologists established data sampling plots in areas of homogenous vegetation, within the wetland communities and in the adjacent uplands. Biologists identified plant species in the representative areas using Hitchcock and Cronquist (1977) as the primary identification and taxonomy references. Vegetation was considered hydrophytic (adapted to frequent saturation or inundation) if over 50 percent of plant species had indicator status of facultative (FAC), facultative wetland (FACW), or obligate (OBL); when there is a prevalence of over 80 percent of the plant community is hydrophitic; or when plants have morphological adaptations for life in wetlands. **Exhibit 8** describes indicator statuses given to plant species.

Exhibit 8. Wetland Indicator Status System

Code	Wetland Type	Comment
OBL	Obligate Wetland	Occurs almost always (estimated probability 99%) under natural conditions in wetlands.
FACW	Facultative Wetland	Usually occurs in wetlands (estimated probability 67% - 99%) but occasionally found in non-wetlands.
FAC	Facultative	Equally likely to occur in wetlands or non-wetlands (estimated probability 34% - 66%).
FACU	Facultative Upland	Usually occurs in non-wetlands (estimated probability 67% - 99%), but occasionally found in wetlands (estimated probability 1% - 33%).
UPL	Obligate Upland	Plants that occur rarely (estimated probability <1%) in wetlands under natural conditions.

(Reed 1988).

Soils

In accordance with the Manual, biologists dug soil pits and examined profiles at all data plots for indicators of hydric conditions or met the definition of hydric soils. Hydric soil may include a variety of indicators such as thick organic layers, gleying, or low soil matrix chroma, depletion or redox concentrations. Hydric soils are defined as those that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions that favor the growth of hydrophytic vegetation.

Hydrology

DEA evaluated wetland hydrology at each data plot location and other locations throughout the project corridors. Evaluation of hydrology included observation of



hydrologic indicators, surface water, soil saturation, groundwater depth, ponding, evidence of drainage patterns, and other indicators.

Post-Processing

Post-processing methods involved extensive analysis of information from the preliminary research, dataforms, field notes, diagrams, photographs, and GPS data collected during field studies. Using ESRI ArcGIS (version 10.0) GIS software, wetland delineation boundaries were refined. In some cases (i.e. segments of wetlands AG, F, O, and W), the GPS delineated boundaries were extrapolated using photo-interpretation of boundaries or in other circumstances where safety concerns limited GPS data collection. The delineated wetland acreage within the study area and potential impacts to the wetlands according to the alternatives were subsequently calculated.

Areas determined to be wetlands were evaluated for functional value according to the 2008 MDT Montana Wetland Assessment Method (Berglund et al. 2008). Wetlands provide valuable functions for physical and biological systems, and may significantly affect socioeconomic systems. Qualitative methodologies have been developed for assessing wetland functional values. These values include wildlife habitat, fish habitat, flood attenuation, surface water storage, sediment/toxicant retention and removal, sediment/shoreline stabilization, production export/food chain support, groundwater discharge/recharge, uniqueness, and recreational/educational potential. Wetlands can be classified as Category I, II, III, or IV. According to the MDT Montana Wetland Assessment Method, Category I wetlands are of exceptionally high quality and are generally rare to uncommon in the state. Category II wetlands are more common than Category I, and are those that provide habitat for sensitive plants or animals, function at very high levels for wildlife/fish habitat, are unique in a given region, or are assigned high ratings for many of the assessed functions and values. Category III wetlands are more common, generally less diverse, and often smaller and more isolated than Category I or II wetlands. They still can provide many functions and values, although may not be assigned high ratings for as many parameters as Category I and II wetlands. Category IV wetlands are generally small, isolated, and lack vegetative diversity. These sites provide little in the way of wildlife habitat, and are often directly or indirectly disturbed (Berglund et al. 2008).

Wetlands ratings for those wetlands delineated in the study area in 2007 were updated to reflect any changes in wetland vegetation, hydrology, size, or nearby land use changes.

7.3 WETLAND RESULTS

Over 50 wetlands were identified during field investigations. Of those, 24 wetlands were located within or partially within the project corridor. **Exhibit 9** summarizes information about these wetlands including location, class, MDT rating, and associated water body.

A re-evaluation of the wetland delineations conducted in 2007 found that wetlands characteristics described in the datasheets and delineated boundaries are still valid with the exception of wetlands D9, L4, and O, whose delineated boundaries were updated.

Maps showing the locations of wetlands are found in **Appendix D**. Many of the wetlands identified extended well outside the biological resources survey area. On the wetland maps, they are indicated with boundary lines extending beyond the survey area limits. USACE Wetland data forms and MDT Wetland Evaluation Forms are contained in



Appendix E. Photographs of the wetlands are provided in **Appendix B**, photographs 25-50. Although the wetland maps show all 50 delineated wetlands, the photographs, wetland forms, and results presented in this section focus on the 24 wetlands located within or partially within the project corridor.

Exhibit 9 summarizes location, classification, MDT functional assessment rating, associated water body, and the acreage of wetlands within the study area.

Exhibit 9. Wetland Summary for the Project Corridor

Wetland Field ID	Section , Township, Range	Cowardin Wetland Class*	Category	Potential Connection to Waters of the US	Delineated acres **
AC	S7, T1N, R27E	R2EM	III	Wetland associated with irrigation canal that discharges into a natural drainage to the Yellowstone River	0.94
AD	S1, T1N, R26E	R2EM	IV	Wetland associated with two canal segments that join and flow east in a canal for potential agricultural end use and/or to Seven Mile Creek or the Miller McGirl Ditch	1.15
AF	S7, T1N, R27E	PFO	II	Wetland has a natural drainage to the Yellowstone River	1.82
AG	S7, T1N, R27E	R2UB	II	Wetland located within the Yellowstone River channel	10.32
АН	S18, T1N, R27E	PSS	IV	Wetland has a seasonal flow east to a larger wetland that flows to the Yellowstone River and/or gravel pit ponds adjacent to the wetlands that discharge to the Yellowstone River.	0.20
Al	S17, T1N, R27E	PEM	IV	Wetland abuts RR right-of-way ditch, no outlet	0.44
AK	S19, T1N, R27E	PEM	IV	Wetland a depression in active gravel yard, no outlet	0.31
С	S11, T1N, R26E	R2SBHX	IV	Wetland abuts the canal which flows north to Five Mile Creek	0.18
D	S11, T1N, R26E	PEM	IV	Wetland abuts lateral supply ditch-agriculture end use	0.09
D9	S18, T1N, R27E	PEM	IV	Wetland abuts lateral supply ditch- agriculture end use	0.83



Wetland Field ID	Section , Township, Range	Cowardin Wetland Class*	Category	Potential Connection to Waters of the US	Delineated acres **
E	S13, T1N, R26E	PEM	III	Wetland source water is a pipe from Lake Elmo, and wetland the pond discharges into the Yellowstone River	0.89
F	S12, T1N, R26E	PEM	III	Wetland along Five Mile Creek	1.11
I	S11, T1N, R26E	PSS	IV	Wetland along irrigation ditch that discharges into natural drainages to Five Mile Creek	0.39
J	S11, T1N, R26E	PSS	IV	Wetland along irrigation ditch that discharges into natural drainages to Five Mile Creek	0.19
L2	S6, T2N, R27E	PEM	IV	Wetland connects to larger canal wetland to the south (Wetland AD), which potentially drains to Seven Mile Creek or the Miller McGirl Ditch.	0.30
L4	S1,T1N, R26E	PEM	III	Wetland connects to Wetland AD, which potentially drains to Seven Mile Creek or the Miller McGirl Ditch.	1.31
М	S11 and 12, T1N, R26E	PEM	IV	Wetland abuts supply ditchagriculture end use	0.68
0	S7, T1N, R27E	R2UB	IV	Wetland located within the Yellowstone River channel	1.79
Р	S17,18 and 19, T1N, R27E	PEM	III	Wetland associated with an irrigation canal that is a supply/waste ditch that potentially flows to the Yellowstone River	0.94
R	S17 , T1N, R27E	PEM	IV	Wetland abuts irrigation lateral supply/waste ditch that potentially flows into the Yellowstone River	0.02
S	S17, 19,20 T1N, R27E and beyond	PEM	IV	Wetland associated with Coulson Ditch which potentially discharges into the Yellowstone River	1.12



Wetland Field ID	Section , Township, Range	Cowardin Wetland Class*	Category	Potential Connection to Waters of the US	Delineated acres **
Т	S19, T1N, R27E	PEM	IV	Roadside ditch wetlands with fully infiltrated flow	0.37
W	S 19, T1N, R27E	PEM	III	Wetland discharges into an unnamed drainage to Yellowstone River	12.20
Υ	S11, T1N, R26E	PEM	IV	Wetland abuts lateral supply ditch-agriculture end use	0.04

^{*}Cowardin et al. 1979

7.3.1 Description of Delineated Wetlands

The following is a description of the 24 delineated wetlands that intersect the project corridor and a summary of the MDT assessment rating. For each wetland, a notation is made to identify which wetland map(s) in **Appendix D** display the wetland.

Wetland AC is along an irrigation canal that runs south to the Yellowstone River. The dominant wetland plant species were cattail (*Typha latifolia*), hardstem bulrush (*Scirpus acutus*), and reed canarygrass (*Phalaris arundinacea*). There were isolated areas dominated by shrubs. It is surrounded by irrigated hayfields and pasture. The NRCS soils listed for Wetland AC are Bew silty clay loam, 0 to 1% slope and Keiser silty clay loam, 1 to 4% slope none of which are listed as hydric in Yellowstone County (NRCS 2011). Wetland AC and its associated irrigation canal discharges into a natural drainage to the Yellowstone River. The most prominent functions were moderate ratings in MT Natural Heritage program species habitat, sediment/shoreline stabilization, production export/food chain support, and general wildlife habitat categories. (Wetland Map #3)

Wetland AD is along two segments of an irrigation canal south of Highway 312. The dominant wetland plant species were reed canarygrass and watercress (*Rorippa nasturtium-aquaticum*). It is surrounded by irrigated cropland, hayfields, and grazing. The NRCS soil listed for Wetland AD is Lohmiller silty clay, 0 to 1% slope, which is not listed as hydric in Yellowstone County (NRCS 2011). The two segments (north and south flowing) join and flow east in a canal for potential agricultural end use and/or to Seven Mile Creek or the Miller McGirl Ditch. It rated low in most wetland functions except for a moderate rating in sediment, nutrient, and toxic removal. (Wetland Map #4)

Wetland AF is a naturally occurring wetland located within the channel migration zone of the Yellowstone River, located along the south bank. Dominant wetland plant species were Plains cottonwood and reed canarygrass. It is bordered on the east by cropland and a gravel pit operation. To the west are the riparian areas of the Yellowstone River. The NRCS soil listed for Wetland AF is Haverson loam, 0 to 1% slope, not listed as hydric in Yellowstone County (NRCS 2011). Wetland AF has a natural drainage that discharges to the Yellowstone River. The most prominent functions were high ratings in sediment/shoreline stabilization, MT Natural Heritage program species habitat, general wildlife habitat, general fish habitat, and production export/food chain support. All other functions were rated high or moderate. (Wetland Maps #2 and #3)



^{**}Delineated acres within study area

Wetland AG is a naturally occurring wetland located within the channel migration zone of the Yellowstone River, along the south bank. Dominant wetland plant species were sedge (*Carex sp.*) and spikerush (*Eleocharis palustris*). It is bordered on the east by the Yellowstone River riparian areas and on the west by the Yellowstone River channels. The NRCS soil listed for Wetland AG is Riverwash, listed as hydric in Yellowstone County (NRCS 2011). The boundary of this wetland is transitory and subject to channel changes. Wetland AG is located within the Yellowstone River channel. The most prominent functions were high ratings in sediment/shoreline stabilization, MT Natural Heritage program species habitat, general wildlife habitat, general fish habitat, and production export/food chain support. All other functions were rated high or moderate. (Wetland Maps #2 and #3)

Wetland AH is a naturally occurring wetland south of the Yellowstone River that seasonally has a hydrolic connection to a larger wetland east of the study area. The dominant wetland plant species in Wetland AH were Russian olive, cattail, and smooth scouring rush (*Equisetum laevigatum*). It is bordered by irrigated hayfields and a gravel pit operation. The NRCS soil listed for Wetland AH is Haverson loam, gravelly variant, 0 to 1% slope, not listed as hydric in Yellowstone County (NRCS 2011). Wetland AH has a seasonal flow east to a larger wetland that flows to the Yellowstone River and/or gravel pit ponds adjacent to the wetlands that discharge to the Yellowstone River. The most prominent functions were moderate ratings in sediment, nutrient, and toxic removal; sediment/shoreline stabilization; and production export/food chain support. (Wetland Maps #2 and #3)

Wetland AI is located within a ditch along the north side of the BNSF railroad line. The dominant wetland plant species in Wetland AI was reed canarygrass. It is bordered by irrigated hayfields to the north and the railroad embankment to the south. The NRCS soil listed for Wetland AI is Hysham-Laurel silty clay loams, 0 to 2% slope, not listed as hydric in Yellowstone County (NRCS 2011). Wetland AI has no outlet. Its most prominent function was a high rating in sediment, nutrient, and toxic removal. All other functions were rated low. (Wetland Map #2)

Wetland AK is located near Johnson Lane in the middle of a gravel pit operation. At one time Wetland AK was probably part of Wetland W. The dominant wetland plant species in Wetland AK is cattail. The NRCS soil listed for Wetland AK is gravel pit, not listed as hydric in Yellowstone County (NRCS 2011). Wetland AK has no discernable outlet. (Wetland Maps #1 and #2)

Wetland C is associated with an irrigation canal that intersects Mary Street. The dominant wetland plant species were reed canarygrass and watercress. It is surrounded by irrigated cropland and hayfields. The NRCS soil listed for Wetland C is Keiser silty clay loam, 0 to 1% slope, not listed as hydric in Yellowstone County (NRCS 2011). Wetland C abuts the canal which flows north to Five Mile Creek. It rated low in most wetland functions except for a moderate rating in sediment, nutrient, and toxic removal. (Wetland Map #5)

Wetland D is associated with an irrigation lateral supply ditch located north of Mary Street. The dominant wetland plant species in Wetland D was reed canarygrass. It is surrounded by irrigated cropland. The NRCS soil listed for Wetland D is Keiser silty clay loam, 0 to 1% slope, not listed as hydric in Yellowstone County (NRCS 2011). Wetland D



discharges into cropland. It rated low in most wetland functions except for a moderate rating in sediment, nutrient, and toxic removal. (Wetland Map #5)

Wetland D9 is located in a lateral irrigation ditch north of the Burlington Northern Railroad. The dominant wetland plant species in Wetland D9 was Nebraska sedge (*Carex nebrascensis*) and three-square bulrush (*Scirpus pungens*). The primary NRCS soil listed for Wetland D9 is Wanetta clay loam, 0 to 1% slope, not listed as hydric in Yellowstone County (NRCS 2011). Wetland D9 ditch flows to agricultural end use. (Wetland Map #2)

Wetland E is a wetland south of Mary Street abutting and within a gravel pit pond that was naturalized in the 1980s. The dominant wetland plant species in Wetland F is cattail. It is bordered by residential use and irrigated hayfields. The NRCS soil listed for Wetland E is gravel pit, not listed as hydric in Yellowstone County (NRCS 2011). Wetland E pond source water is a pipe from Lake Elmo, and the pond discharges into the Yellowstone River. The most prominent functions were high ratings in sediment/shoreline stabilization; and sediment, nutrient, and toxic removal; moderate ratings in general wildlife habitat, short and long term water storage, and production export/food chain support. (Wetland Maps #3 and #5)

Wetland F is a naturally occurring wetland along Five Mile Creek and tributaries, north and south of Mary Street/Five Mile Road. Five Mile Creek receives water from various waste irrigation ditches upstream of this location. The dominant wetland plant species in Wetland F is reed canarygrass. It is surrounded by pasture and hayfields. The NRCS soil listed for Wetland F is Haverson and Lohmiller soils, 0 to 4% slope, not listed as hydric in Yellowstone County (NRCS 2011). Water from Wetland F flows into the Yellowstone River. The most prominent functions were high ratings in sediment/shoreline stabilization; sediment, nutrient, and toxic removal; general fish habitat; and production export/food chain support. (Wetland Map #3)

Wetlands I and J are located along irrigation waste ditches located north of Mary Street. The dominant wetland plant species were reed canarygrass, cattail, and American speedwell (*Veronica americana*). They are surrounded by pasture and hayfields. The NRCS soil listed for Wetlands I and J was Keiser silty clay loam, 0 to 1% slope, not listed as hydric in Yellowstone County (NRCS 2011). Wetlands I and J associated irrigation ditches discharge into natural drainages to Five Mile Creek. The most prominent functions were a high rating for in sediment/shoreline stabilization and moderate rating for sediment, nutrient, and toxic removal. The remaining functions were rated low. (Wetland Map #5)

Wetland L2 is a depressional wetland from canal overflow from an unnamed ditch, located south of Hwy 312. The dominant wetland plant species in Wetland L2 was meadow foxtail (*Alopecurus pratensis*). The wetland is in a heavily grazed area. The surrounding habitat is irrigated cropland. Wetland L2 is part of larger wetland to the west (L4), connected through a culvert. The NRCS soil listed for Wetland L2 is McRae loam, 0 to 1% slope, not listed as hydric in Yellowstone County (NRCS 2011). Wetland L2 connects to a larger canal wetland to the south (Wetland AD), which potentially drains to Seven Mile Creek or the Miller McGirl Ditch. The most prominent functions were a high rating in groundwater discharge/recharge and moderate ratings in sediment, nutrient, and toxic removal and short and long term water storage. (Wetland Map #4)



Wetland L4 is a large naturally occurring wetland area bisected by Hwy 312 that extends beyond the survey area to the BBWA Canal. It is primarily a depressional wetland that drains through an irrigation ditch to the south. The dominant wetland plant species were cattail and three-square bulrush. The surrounding habitat is irrigated hayfields and grazing. The NRCS soil listed for Wetland L4 is Alluvial land, seeped, listed as hydric in Yellowstone County (NRCS 2011). Wetland L4 connects to Wetland AD, which potentially drains to Seven Mile Creek or the Miller McGirl Ditch. The most prominent functions were high ratings in sediment/shoreline stabilization; sediment, nutrient, and toxic removal; groundwater discharge/recharge. Moderate ratings were in short and long term water storage and production export/food chain support. (Wetland Map #4)

Wetland M is a fringe wetland along an irrigation ditch north of and paralleling Mary Street. The dominant wetland plant species was reed canarygrass. It is bordered by irrigated cropland and hayfields. The primary NRCS soil listed for Wetland M is Keiser silty clay loam, 0 to 1% slope, not listed as hydric in Yellowstone County (NRCS 2011). Wetland M discharges into cropland. The most prominent function was a high rating in sediment/shoreline stabilization. The remaining functions were rated low. (Wetland Map #5)

Wetland O is a natural occurring wetland located on the north shore channel of the Yellowstone River. The dominant wetland plant species were reed canarygrass and cattail. It is separated from another wetland east of the study area by a head gate. The NRCS soil listed for Wetland O7 is Hilly, gravelly land, not listed as hydric in Yellowstone County (NRCS 2011). Wetland O7 is located within the Yellowstone River channel. All the wetland functions were rated low. (Wetland Map #3)

Wetland P is along an irrigation canal primarily south of Coulson Road. The dominant wetland plant species were cattail, rough fescue (*Festuca scabrella*), and Russian olive. It is bordered by irrigated hayfields and commercial use. The NRCS soil listed for Wetland P is Hysham-Laurel silty clay loams, 0 to 2% slope, not listed as hydric in Yellowstone County (NRCS 2011). Wetland P is associated with an irrigation canal that is a supply/waste ditch that potentially flows to the Yellowstone River. The most prominent functions were moderate ratings in MT Natural Heritage program species habitat, sediment/shoreline stabilization, production export/food chain support, and general wildlife habitat. (Wetland Maps #1 and #2)

Wetland R is located along small narrow lateral irrigation waste ditch, located south of Coulson Road. The dominant wetland plant species were cattail and small-fruited bulrush (*Scirpus microcarpus*). It is surrounded by irrigated hayfields. The NRCS soil listed for Wetlands R is Hysham-Laurel silty clay loams, 0 to 2% slope, not listed as hydric in Yellowstone County (NRCS 2011). Wetland R and its associated ditch discharges into a larger ditch (Wetland P) that potentially flows to the Yellowstone River. The most prominent functions were a high rating for sediment/shoreline stabilization and moderate rating for sediment, nutrient, and toxic removal. The remaining functions were rated low. (Wetland Map #2)

Wetland S is a fringe wetland along Coulson Ditch. The dominant wetland plant species were reed canarygrass and Canada thistle. Shrubs were dominant in isolated locations. It is surrounded primarily by irrigated hayfields. The primary NRCS soil listed for Wetland S area is Hysham-Laurel silty clay loams, 0 to 2% slope, not listed as hydric in Yellowstone



County (NRCS 2011). Wetland S is associated with Coulson Ditch, which potentially discharges into the Yellowstone River. The most prominent function was a high rating in sediment/shoreline. The remaining functions were rated low. (Wetland Maps #1 and #2)

Wetland T is group of small, connected ditch wetlands within the I-90/Johnson Lane intersection. The water source was an irrigation waste ditch and highway runoff. The dominant wetland plant species were reed canarygrass and cattail. It is surrounded by maintained highway right-of-way. The NRCS soil listed for Wetland T is Thurlow clay loam, 4 to 7% slope, not listed as hydric in Yellowstone County (NRCS 2011), but is most likely fill materials. Wetland T flow was fully infiltrated at the lowest elevation with no hydrology evident beyond the north wetland boundary. The most prominent functions were a high rating in sediment/shoreline stabilization and a moderate rating for flood attenuation. The remaining functions were rated low. (Wetland Map #1)

Wetland W is a large, natural wetland mosaic that has been modified and reduced in expanse over the years by dikes, berms, and commercial development within the study area. It is located north of I-90 and the BNSF railroad. The dominant wetland plant species were cattail with isolated shrub components in the perimeter. The surrounding area is commercial land use. The NRCS soil listed for Wetland W is Alluvial land, seeped, listed as hydric in Yellowstone County (NRCS 2011). Wetland W waters discharge into an unnamed drainage to Yellowstone River. The most prominent functions were a high rating in short and long term water storage and moderate ratings in MT Natural Heritage program, flood attenuation, and production export/food chain support. (Wetland Maps #1 and #2)

Wetland Y abuts a small roadside ditch on the east side of Highway 87, north of Mary Street. The dominant wetland plant species for Wetland Y was wooly sedge (*Carex lanuginose*) and cottonwood saplings. It is surrounded by development and pasture. The NRCS soil listed for Wetlands Y was Keiser silty clay loam, 0 to 1% slope, not listed as hydric in Yellowstone County (NRCS 2011). Water from Wetland Y flows to agricultural end use. The most prominent function was a high rating for in sediment/ shoreline stabilization. The remaining functions were rated low. (Wetland Map #5)

7.3.2 Potential Wetland Impacts

Direct Impacts

Under the No-Build Alternative, the proposed arterial would not be constructed and there would be no impacts to the wetlands.

Impacts Common to All Build Alternatives

Implementing any of the build alternatives would result in permanent loss of existing wetlands. Wetland area would be lost to the construction of the roadway, bridges, culverts, and landscaping due to the placement of fill in the form of soil, riprap, concrete, various sizes of rock, and other construction materials. The area of loss will be minimized to the extent possible during preliminary and final design.

Build Alternative Impacts

The total area of wetlands potentially affected varies by Alternative. **Exhibit 10** shows the preliminary potential area of impact to wetlands according to Alternative and MDT rating. As stated previously, the conceptual design for the build alternatives upon which



the impact calculations are based, do not include staging areas, materials storage areas, or secondary road improvements that will be part of the project footprint. These elements will be incorporated during the preliminary design process with consideration for sensitive habitat, such as wetlands.

This preliminary impact analysis assumes that any wetlands under bridge structures would be completely affected. However, because the river bridge heights reach up to 100 feet, impacts to the wetlands (Wetland AG, F, and O) may be avoided and impacts to others could be less than is estimated in this report.

The conceptual design will be further refined and impacts likely significantly reduced during the preliminary design process. Permanent and temporary impacts will be determined in greater detail in the EIS.

Exhibit 10. Potential Wetland Impacts for Build Alternatives (acres)

							/
Name	Delineated	Johnson1	Johnson1-	Johnson2	Johnson2-	Johnson1	Johnson2
Name	Acres	-Mary1	Mary2	-Mary1	Mary2	-FiveMile	-FiveMile
AC	0.59					0.15	0.15
AD	3.55					0.87	0.87
AF	2.81	0.39	0.34	0.39	0.34	0.34	0.34
AG	9.64	1.85	0.99	1.85	0.99	0.99	0.99
AH	0.02	0.02					
Al	0.70	0.18	0.18			0.18	
AK	0.19			0.11	0.03		0.03
С	0.09	0.02	0.02	0.02	0.02		
D	0.07	0.02	0.02	0.02	0.02		
D9	0.77	0.08	0.10	0.09	0.10	0.10	0.10
E	0.46	0.23		0.23			
F	0.43		0.21		0.21		
1	0.26	0.07	0.07	0.07	0.07		
J	0.32	0.08	0.08	0.08	0.08		
L2	0.27					0.13	0.13
L4	0.14						
M	0.63	0.16	0.16	0.16	0.16		
0	2.14		0.36		0.36	0.36	0.36
Р	0.36	0.09	0.09			0.09	
R	0.04	0.01	0.01			0.01	
S	0.75	0.19	0.19			0.19	
T	2.42	0.30	0.30	0.30	0.30	0.30	0.30
W	5.76			1.45	1.44		1.44
Υ	0.11	0.03	0.03	0.03	0.03		
Total							
Acres ²	32.51	3.71	3.13	4.80	4.13	3.70	4.70
1p	a alta ta alta da la	II II I	ithin the prolim	· · · · · · · · · · · · · · · · · · ·	1: 1: 6.		.

¹Potential impacts include all wetlands within the preliminary construction limits of the conceptual design

Indirect Impacts

Indirect impacts to wetlands would include potential loss of their inherent functions and values including:



²Totals presented are based on the GPS delineation data collected with six decimal places and may not match data presented in this table due to rounding.

- Fish and wildlife habitat;
- Flood attenuation;
- Surface water storage;
- Sediment, nutrient, and toxicant removal;
- Bank and shoreline stabilization;
- Groundwater discharge and recharge; and
- Uniqueness, recreational and educational opportunities.

Depending on the height of bridge structures, wetlands under bridges may be impacted due to obstruction of sunlight and precipitation from the structures.

7.3.3 Avoidance and Minimization

As a result of the BRR wetland investigation and results, the locations and functional assessment of wetlands will provide the design team with the information needed to refine the alternatives as practicable to avoid or minimize impacts to wetlands. Impacts to wetlands should be avoided to the greatest extent practicable as MDT currently has no wetland reserve credits available within the Middle Yellowstone Watershed.

7.3.4 Permitting Required

Several U.S. federal wetland regulations that may pertain to the proposed project including the CWA of 1972, Section 404 including the 2007 Rampanos/Swancc Guidance; Section 401 (Water quality certification) National Environmental Policy Act; Executive Order 11990 (Protection of Wetlands); Executive Order 11988 (Protection of Floodplains) and the Fish and Wildlife Coordination Act (Protection of Threatened and Endangered species).

Permitting required is similar to those described **in Section 4.21 Aquatic Sites**: USACE 404(b) permit, MDEQ water quality permit, Montana Pollutant Discharge Elimination System (MPDES Permit), and construction permits.

7.3.5 Proposed Wetland Mitigation

The 404(b) permit would likely require mitigation for the impacts to jurisdictional wetlands in the form of using credits from one of MDT's wetland mitigation reserves; purchasing credits from a wetland mitigation bank; or developing on-site wetland restoration, enhancement, or creation. MDT policy is to avoid and minimize impacts to wetlands, and if wetlands are impacted as a result of an individual highway project, MDT would mitigate for jurisdictional and non-jurisdictional wetlands. MDT attempts to mitigate wetland impacts within the same watershed where the impacts occurred. Thus, each individual MDT project would mitigate for its own impacts. This project's contribution to adverse cumulative impacts, mitigated in compliance with the terms of a Clean Water Act Section 404 permit and MDT policies, would be minor.



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BILLINGS BYPASS

Biological Resources Report

November 2011

APPENDIX A AGENCY COORDINATION



United States Department of the Interior

FISH AND WILDLIFE SERVICE ECOLOGICAL SERVICES MONTANA FIELD OFFICE 585 SHEPARD WAY HELENA, MONTANA 59601 PHONE (406) 449-5225, FAX (406) 449-5339

File: M.44. MDT (I) November 23, 2010

Tom S. Martin, Chief Environmental Services Bureau Montana Department of Transportation 2701 Prospect Avenue P.O. Box 201001 Helena, Montana 59620-1001

Dear Mr. Martin:

This is in response to your September 27, 2010 letter on behalf of the Federal Highway Administration (FHWA) inviting participation by the U.S. Fish and Wildlife Service (Service) in the environmental review process for the Billings Bypass Environmental Impact Statement (EIS). The completed Participating Agency Designation is attached.

The environmental review process will develop a proposed action and alternatives for a bypass road from Interstate 90 in the vicinity of Lockwood to Old Highway 312 north of Billings Heights. Of necessity, this project will entail a new bridge spanning the Yellowstone River. All activities will occur in Yellowstone County, Montana. Species that are listed under the Endangered Species Act that may occur in the vicinity of this project include: black-footed ferret (*Mustela nigripes*), whooping crane (*Grus americana*), mountain plover (*Charadrius montanus*), a proposed species, and greater sage-grouse (*Centrocercus urophasianus*), a candidate species. In the past we have been concerned about the possible presence of pallid sturgeons (*Scaphirhynchus albus*) in this area. However, information obtained in the last decade indicates that pallid sturgeons are unlikely to be found upstream of the confluence with the Big Horn River, and are not expected to occur within the vicinity of the project area. No wildlife refuges are contained within the project study area.

We have indicated our status as a Participating Agency because the project may affect listed species. However, as you are undoubtedly aware, we are extremely short-staffed at this time, and we do not anticipate being able to provide substantial review or participation in meetings, field reviews, and other activities. Once the preferred alternative is identified, consultation regarding effects to listed species will be handled from this office.

We recommend that you consider locations for the new bridge across the Yellowstone River that minimize impacts to the floodplain, riparian habitat, and the channel migration zone. Designs to be considered should include, if practicable, as clear-span bridge that has no footings or supports within the active river channel.

We appreciate your efforts to ensure the conservation of threatened and endangered species as part of our joint responsibilities under the Endangered Species Act, as amended. If you have questions or comments related to this correspondence, please contact Shannon Downey of my staff at 406-449-5225, ext 214.

Sincerely,

R. Mark Wilson Field Supervisor

Billings Bypass E3S Project No. NCPD 56(55) Control No. 4199

PARTICIPATING AGENCY DESIGNATION

A	Yes IJ the proj	.S. FISH AND WILDLIET SERVICE wishes to be designated as a participating agency for possed Billings Bypass EIS Project				
	No. U.S. $\Gamma(s)$ AND WILDLITE STRVICT does not wish to be designated as a participating agent for the proposed Billings Bypass EIS Project because:					
		Agency has no jurisdiction or surfacilty with respect to the project				
		Agency has no expertise or information relevant in the project				
		Agency does not intend to submit comments on the project				
	R. Zi Aark 1 ect L	appropriate bits or bases. And And (Sign Authorized Representative) Wilson				
	14 g.	<u>\$~ / ()</u> (Date)				

Рісяво горизатот

Thomas S. Martin, P.E. MIDT Stationmental Services Bureau Chief 2701 Prespect Avenue PO Box 201001 Helena MT 59620-1001

Fax: 406-444-7671

^{*} Please note that if Fockital agencies do not state their position in these terms, then the Federal agency should be created as a participating agency. Designation as a "participating agency" does not imply that the agency supports the proposed project or has any jurisdiction.

er.			



United States Department of the Interior

FISH AND WILDLIFE SERVICE ECOLOGICAL SERVICES MONTANA FIELD OFFICE 585 SHEPARD WAY HELENA, MONTANA 59601

PHONE (406) 449-5225, FAX (406) 449-5339

ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA COUNTIES* Endangered Species Act

May 2011

C = Candidate PCH = Proposed Critical Habitat LT = Listed Threatened CH = Designated Critical Habitat

LE = Listed Endangered XN = Experimental non-essential population

P = Proposed

*Note: Generally, this list identifies the counties where one would reasonably expect the species to occur, not necessarily every county where the species is listed

County/Scientific Name	Common Name	Status	
BEAVERHEAD			
Spiranthes diluvialis	Ute Ladies' Tresses	LT	
Ursus arctos horribilis	Grizzly Bear	LT	
Centrocercus urophasianus	Greater Sage-Grouse	С	
Thymallus arcticus	Arctic Grayling (Upper Missouri River DPS)	С	
Gulo gulo luscus	Wolverine	С	
BIG HORN			
Mustela nigripes	Black-footed Ferret	LE	
Centrocercus urophasianus	Greater Sage-Grouse	С	
Anthus spragueii	Sprague's Pipit	С	
BLAINE			
Scaphirhynchus albus	Pallid Sturgeon	LE	
Mustela nigripes	Black-footed Ferret	LE	
Centrocercus urophasianus	Greater Sage-Grouse	С	
Anthus spragueii	Sprague's Pipit	С	
BROADWATER			
Spiranthes diluvialis	Ute Ladies' Tresses	LT	
Anthus spragueii	Sprague's Pipit	С	
Gulo gulo luscus	Wolverine	С	

County/Scientific Name	Common Name	Status
CARBON		
Lynx canadensis	Canada Lynx	LT, CH
Mustela nigripes	Black-footed Ferret	LE
Ursus arctos horribilis	Grizzly Bear	LT
Centrocercus urophasianus	Greater Sage-Grouse	С
Anthus spragueii	Sprague's Pipit	С
Gulo gulo luscus	Wolverine	С
CARTER		
Mustela nigripes	Black-footed Ferret	LE
Centrocercus urophasianus	Greater Sage-Grouse	С
Anthus spragueii	Sprague's Pipit	С
CASCADE	af-ingui a - spir	
Anthus spragueii	Sprague's Pipit	С
Gulo gulo luscus	Wolverine	C
CHOUTEAU	11 OI OI OI OI	
Scaphirhynchus albus	Pallid Sturgeon	LE
Mustela nigripes	Black-footed Ferret	LE
Centrocercus urophasianus	Greater Sage-Grouse	C
Anthus spragueii	Sprague's Pipit	C
CUSTER	Sprague 3 Tipit	
Scaphirhynchus albus	Pallid Sturgeon	LE
Sterna antillarum athalassos	Interior Least Tern	LE
Mustela nigripes	Black-footed Ferret	LE
Grus americana	Whooping Crane	LE
Centrocercus urophasianus	Greater Sage-Grouse	C
Anthus spragueii	Sprague's Pipit	C
DANIELS	Sprague 31 pr	
Grus americana	Whooping Crane	LE
Anthus spragueii	Sprague's Pipit	C
DAWSON	Sprague 3 i ipit	
Scaphirhynchus albus	Pallid Sturgeon	LE
Sterna antillarum athalassos	Interior Least Tern	LE
Grus americana	Whooping Crane	LE
Centrocercus urophasianus	Greater Sage-Grouse	C
Anthus spragueii	Sprague's Pipit	C
DEER LODGE	Sprague s r ipit	
Salvelinus confluentus	Bull Trout	LT, CH
Thymallus arcticus	Arctic Grayling (Upper Missouri River DPS)	C
Gulo gulo luscus	Wolverine Wolverine	C
FALLON	Wolverine	C
Grus americana	Whooning Crana	LE
	Whooping Crane Greater Sage-Grouse	C
Centrocercus urophasianus		C
Anthus spragueii	Sprague's Pipit	C
FERGUS	D. 11. 1 C.	IE
Scaphirhynchus albus	Pallid Sturgeon	LE
Mustela nigripes	Black-footed Ferret	LE
Centrocercus urophasianus	Greater Sage-Grouse	C
Anthus spragueii	Sprague's Pipit	С

County/Scientific Name	Common Name	Status
FLATHEAD		
Salvelinus confluentus	Bull Trout	LT, CH
Ursus arctos horribilis	Grizzly Bear	LT
Silene spaldingii	Spalding's Campion	LT
Lynx canadensis	Canada Lynx	LT, CH
Lednia tumana	Meltwater Lednian Stonefly	C
Gulo gulo luscus	Wolverine	С
GALLATIN		
Spiranthes diluvialis	Ute Ladies' Tresses	LT
Lynx canadensis	Canada Lynx	LT, CH
Ursus arctos horribilis	Grizzly Bear	LT
Centrocercus urophasianus	Greater Sage-Grouse	С
Anthus spragueii	Sprague's Pipit	С
Gulo gulo luscus	Wolverine	С
GARFIELD		
Scaphirhynchus albus	Pallid Sturgeon	LE
Charadrius melodus	Piping Plover	LT, CH
Sterna antillarum athalassos	Interior Least Tern	LE
Mustela nigripes	Black-footed Ferret	LE
Centrocercus urophasianus	Greater Sage-Grouse	С
Anthus spragueii	Sprague's Pipit	С
GLACIER		
Ursus arctos horribilis	Grizzly Bear	LT
Lynx canadensis	Canada Lynx	LT, CH
Salvelinus confluentus	Bull Trout	LT, CH
Lednia tumana	Meltwater Lednian Stonefly	C
Anthus spragueii	Sprague's Pipit	C
Gulo gulo luscus	Wolverine	С
GOLDEN VALLEY		
Mustela nigripes	Black-footed Ferret	LE
Centrocercus urophasianus	Greater Sage-Grouse	С
Anthus spragueii	Sprague's Pipit	С
Gulo gulo luscus	Wolverine	С
GRANITE		
Lynx canadensis	Canada Lynx	LT, CH
Salvelinus confluentus	Bull Trout	LT, CH
Gulo gulo luscus	Wolverine	С
HILL		
Mustela nigripes	Black-footed Ferret	LE
Centrocercus urophasianus	Greater Sage-Grouse	С
Anthus spragueii	Sprague's Pipit	С
JEFFERSON		
Spiranthes diluvialis	Ute Ladies' Tresses	LT
Lynx canadensis	Canada Lynx	LT
Mustela nigripes	Black-footed Ferret	LE
Gulo gulo luscus	Wolverine	С
Anthus spragueii	Sprague's Pipit	С

County/Scientific Name	Common Name	Status
JUDITH BASIN		
Anthus spragueii	Sprague's Pipit	С
Gulo gulo luscus	Wolverine	C
LAKE		
Ursus arctos horribilis	Grizzly Bear	LT
Howellia aquatilis	Water Howellia	LT
Silene spaldingii	Spalding's Campion	LT
Lynx canadensis	Canada Lynx	LT, CH
Salvelinus confluentus	Bull Trout	LT, CH
Gulo gulo luscus	Wolverine	С
LEWIS AND CLARK		
Ursus arctos horribilis	Grizzly Bear	LT
Lynx canadensis	Canada Lynx	LT, CH
Salvelinus confluentus	Bull Trout	LT, CH
Mustela nigripes	Black-footed Ferret	LE
Anthus spragueii	Sprague's Pipit	С
Gulo gulo luscus	Wolverine	С
LIBERTY		
Mustela nigripes	Black-footed Ferret	LE
Centrocercus urophasianus	Greater Sage-Grouse	С
Anthus spragueii	Sprague's Pipit	С
LINCOLN		
Acipenser transmontanus	White Sturgeon (Kootenai River Pop.)	LE
Ursus arctos horribilis	Grizzly Bear	LT
Silene spaldingii	Spalding's Campion	LT
Lynx canadensis	Canada Lynx	LT, CH
Salvelinus confluentus	Bull Trout	LT, CH
Howellia aquatilis	Water Howellia	LT
Gulo gulo luscus	Wolverine	С
MADISON		
Spiranthes diluvialis	Ute Ladies' Tresses	LT
Lynx canadensis	Canada Lynx	LT
Ursus arctos horribilis	Grizzly Bear	LT
Centrocercus urophasianus	Greater Sage-Grouse	С
Anthus spragueii	Sprague's Pipit	С
Thymallus arcticus	Arctic Grayling (Upper Missouri River DPS)	С
Gulo gulo luscus	Wolverine	С
McCONE		
Scaphirhynchus albus	Pallid Sturgeon	LE
Charadrius melodus	Piping Plover	LT, CH
Sterna antillarum athalassos	Interior Least Tern	LE
Mustela nigripes	Black-footed Ferret	LE
Grus americana	Whooping Crane	LE
Centrocercus urophasianus	Greater Sage-Grouse	С
Anthus spragueii	Sprague's Pipit	С

County/Scientific Name	Common Name	Status
MEAGHER		
Centrocercus urophasianus	Greater Sage-Grouse	С
Anthus spragueii	Sprague's Pipit	С
Gulo gulo luscus	Wolverine	С
MINERAL		
Lynx canadensis	Canada Lynx	LT
Salvelinus confluentus	Bull Trout	LT, CH
Gulo gulo luscus	Wolverine	С
MISSOULA		
Ursus arctos horribilis	Grizzly Bear	LT
Howellia aquatilis	Water Howellia	LT
Lynx canadensis	Canada Lynx	LT, CH
Salvelinus confluentus	Bull Trout	LT, CH
Coccyzus americanus	Yellow-billed cuckoo (western pop.)	С
Gulo gulo luscus	Wolverine	С
MUSSELSHELL		
Mustela nigripes	Black-footed Ferret	LE
Centrocercus urophasianus	Greater Sage-Grouse	С
Anthus spragueii	Sprague's Pipit	С
PARK		
Lynx canadensis	Canada Lynx	LT, CH
Ursus arctos horribilis	Grizzly Bear	LT
Centrocercus urophasianus	Greater Sage-Grouse	С
Anthus spragueii	Sprague's Pipit	С
Gulo gulo luscus	Wolverine	С
PETROLEUM		
Scaphirhynchus albus	Pallid Sturgeon	LE
Mustela nigripes	Black-footed Ferret	LE
Centrocercus urophasianus	Greater Sage-Grouse	С
Anthus spragueii	Sprague's Pipit	С
PHILLIPS		
Scaphirhynchus albus	Pallid Sturgeon	LE
Charadrius melodus	Piping Plover	LT, CH
Mustela nigripes	Black-footed Ferret	LE, XN
Grus americana	Whooping Crane	LE
Centrocercus urophasianus	Greater Sage-Grouse	С
Anthus spragueii	Sprague's Pipit	С
PONDERA		
Charadrius melodus	Piping Plover	LT
Ursus arctos horribilis	Grizzly Bear	LT
Lynx canadensis	Canada Lynx	LT, CH
Anthus spragueii	Sprague's Pipit	C
Gulo gulo luscus	Wolverine	С

County/Scientific Name	Common Name	Status
POWDER RIVER		
Mustela nigripes	Black-footed Ferret	LE
Centrocercus urophasianus	Greater Sage-Grouse	С
Anthus spragueii	Sprague's Pipit	С
POWELL		
Ursus arctos horribilis	Grizzly Bear	LT
Lynx canadensis	Canada Lynx	LT, CH
Salvelinus confluentus	Bull Trout	LT, CH
Anthus spragueii	Sprague's Pipit	C
Gulo gulo luscus	Wolverine	С
PRAIRIE		
Scaphirhynchus albus	Pallid Sturgeon	LE
Sterna antillarum athalassos	Interior Least Tern	LE
Grus americana	Whooping Crane	LE
Mustela nigripes	Black-footed Ferret	LE
Centrocercus urophasianus	Greater Sage-Grouse	С
Anthus spragueii	Sprague's Pipit	C
RAVALLI		
Salvelinus confluentus	Bull Trout	LT, CH
Coccyzus americanus	Yellow-billed cuckoo (western pop.)	C
Gulo gulo luscus	Wolverine	C
RICHLAND	, or or or	C
Scaphirhynchus albus	Pallid Sturgeon	LE
Charadrius melodus	Piping Plover	LT, CH
Sterna antillarum athalassos	Interior Least Tern	LE
Grus americana	Whooping Crane	LE
Centrocercus urophasianus	Greater Sage-Grouse	C
Anthus spragueii	Sprague's Pipit	C
ROOSEVELT	Springue s ripit	
Scaphirhynchus albus	Pallid Sturgeon	LE
Charadrius melodus	Piping Plover	LT, CH
Sterna antillarum athalassos	Interior Least Tern	LE
Grus americana	Whooping Crane	LE
Anthus spragueii	Sprague's Pipit	С
ROSEBUD		
Mustela nigripes	Black-footed Ferret	LE
Sterna antillarum athalassos	Interior Least Tern	LE
Centrocercus urophasianus	Greater Sage-Grouse	C
Anthus spragueii	Sprague's Pipit	C
SANDERS		
Ursus arctos horribilis	Grizzly Bear	LT
Lynx canadensis	Canada Lynx	LT
Salvelinus confluentus	Bull Trout	LT, CH
Gulo gulo luscus	Wolverine	C
SHERIDAN		
Charadrius melodus	Piping Plover	LT, CH
Grus americana	Whooping Crane	LE
Anthus spragueii	Sprague's Pipit	С

County/Scientific Name	Common Name	Status
SILVER BOW		
Salvelinus confluentus	Bull Trout	LT
Centrocercus urophasianus	Greater Sage-Grouse	С
Thymallus arcticus	Arctic Grayling (Upper Missouri River DPS)	С
Gulo gulo luscus	Wolverine	С
STILLWATER		
Lynx canadensis	Canada Lynx	LT, CH
Mustela nigripes	Black-footed Ferret	LE
Ursus arctos horribilis	Grizzly Bear	LT
Centrocercus urophasianus	Greater Sage-Grouse	С
Anthus spragueii	Sprague's Pipit	C
Gulo gulo luscus	Wolverine	C
SWEET GRASS		
Lynx canadensis	Canada Lynx	LT, CH
Mustela nigripes	Black-footed Ferret	LE
Ursus arctos horribilis	Grizzly Bear	LT
Centrocercus urophasianus	Greater Sage-Grouse	С
Anthus spragueii	Sprague's Pipit	С
Gulo gulo luscus	Wolverine	C
TETON		
Ursus arctos horribilis	Grizzly Bear	LT
Lynx canadensis	Canada Lynx	LT, CH
Anthus spragueii	Sprague's Pipit	C
Gulo gulo luscus	Wolverine	С
TOOLE		
Mustela nigripes	Black-footed Ferret	LE
Anthus spragueii	Sprague's Pipit	С
TREASURE		
Centrocercus urophasianus	Greater Sage-Grouse	С
Anthus spragueii	Sprague's Pipit	С
VALLEY		
Scaphirhynchus albus	Pallid Sturgeon	LE
Charadrius melodus	Piping Plover	LT, CH
Mustela nigripes	Black-footed Ferret	LE
Sterna antillarum athalassos	Interior Least Tern	LE
Grus americana	Whooping Crane	LE
Centrocercus urophasianus	Greater Sage-Grouse	С
Anthus spragueii	Sprague's Pipit	C
WHEATLAND		
Mustela nigripes	Black-footed Ferret	LE
Centrocercus urophasianus	Greater Sage-Grouse	C
Anthus spragueii	Sprague's Pipit	C
Gulo gulo luscus	Wolverine	C

County/Scientific Name	Common Name	Status
WIBAUX		
Scaphirhynchus albus	Pallid Sturgeon	LE
Sterna antillarum athalassos	Interior Least Tern	LE
Grus americana	Whooping Crane	LE
Centrocercus urophasianus	Greater Sage-Grouse	С
Anthus spragueii	Sprague's Pipit	С
YELLOWSTONE		
Mustela nigripes	Black-footed Ferret	LE
Grus americana	Whooping Crane	LE
Centrocercus urophasianus	Greater Sage-Grouse	С
Anthus spragueii	Sprague's Pipit	С





P.O. Box 201800 • 1515 East Sixth Avenue • Helena, MT 59620-1800 • fax 406.444.0581 • tel 406.444.5354 • http://mtnhp.org

October 5, 2010

Tom S. Martin, PE, Chief Environmental Services Bureau Montana Department of Transportation 2701 Prospect Avenue Helena, Montana 59620-1001

Dear Tom,

I am writing in response to your recent request regarding Montana species of concern in the vicinity of the Billings Bypass Sections 1, 2, 11-15, 22-27 and 34-36, T01N, R26E; Sections 5-9, 15-20 and 30, T01N, R27E; Section 36, T02N, R26E; and Sections 29-32, T02N, R27E, in Yellowstone County. I checked our databases for information in this general area and have enclosed 31 species occurrence reports for 14 species of concern, 2 ecological site reports, a map depicting species of concern and ecological site locations, a map depicting wetland locations and documents with explanatory material for species of concern and wetlands.

Please keep in mind the following when using and interpreting the enclosed information and maps:

- (1) These materials are the result of a search of our database for species of concern that occur in an area defined by requested township, range and sections with an additional one-mile buffer surrounding the requested area. This is done to provide a more inclusive set of records and to capture records that may be immediately adjacent to the requested area. Reports are provided for the species of concern that are located in your requested area with a one-mile buffer. Species of concern outside of this buffered area may be depicted on the map due to the map extent, but are not selected for the SOC report.
- (2) On the map, polygons represent one or more source features as well as the locational uncertainty associated with the source features. A source feature is a point, line, or polygon that is the basic mapping unit of a Species Occurrence (SO) representation. The recorded location of the occurrence may vary from its true location due to many factors, including the level of expertise of the data collector, differences in survey techniques and equipment used, and the amount and type of information obtained. Therefore, this inaccuracy is characterized as locational uncertainty, and is now incorporated in the representation of an SO. If you have a question concerning a specific SO, please do not hesitate to contact us.
- (3) This report may include sensitive data, and is not intended for general distribution, publication or for use outside of your agency. In particular, public release of specific location information may jeopardize the welfare of threatened, endangered, or sensitive species or communities.
- (4) The accompanying map(s) display management status, which may differ from ownership. Also, this report may include data from privately owned lands, and approval by the landowner is advisable if specific location information is considered for distribution. Features shown on this map do not imply public access to any lands.
- (5) Additional biological data for the search area(s) may be available from other sources. We suggest you contact the U.S. Fish and Wildlife Service for any additional information on threatened and endangered species (406-449-5225). Also,

significant gaps exist in the Heritage Program's fisheries data, and we suggest you contact the Montana Rivers Information System for information related to your area of interest (406-444-3345).

(6) Additional information on species habitat, ecology and management is available on our web site in the Plant and Animal Field Guides, which we encourage you to consult for valuable information. You can access these guides at http://mtnhp.org. General information on any species can be found by accessing the link to NatureServe Explorer.

The results of a data search by the Montana Natural Heritage Program reflect the current status of our data collection efforts. These results are not intended as a final statement on sensitive species within a given area, or as a substitute for on-site surveys, which may be required for environmental assessments. The information is intended for project screening only with respect to species of concern, and not as a determination of environmental impacts, which should be gained in consultation with appropriate agencies and authorities.

I hope the enclosed information is helpful to you. Let me know if you would prefer to receive digital PDF versions of these documents via email. Please feel free to contact me at (406) 444-3290 or via my e-mail address, below, should you have any questions or require additional information.

Sincerely,

Martin P. Miller

Montana Natural Heritage Program

Muti G. Hille

martinm@mt.gov

Billings Bypass EIS Project No. NCPD 56(55) Control No. 4199

PARTICIPATING AGENCY DESIGNATION

		Yes – MONTANA NATURAL HERITAGE PROGRAM wishes to be designated as a participating agency for the proposed Billings Bypass EIS Project				
X		MONTANA NATURAL HERITAGE PROGRAM does not wish to be designated as a pating agency for the proposed Billings Bypass EIS Project because:*				
	X	Agency has no jurisdiction or authority with respect to the project — Neutral	ata provider.			
		Agency has no expertise or information relevant to the project				
		Agency does not intend to submit comments on the project				
Please o	check (✓)) appropriate box or boxes.				
By Bry Into	ce / ce / enm /29/10	A. Maxel (Sign – Authorized Representative) A. Maxel (Print) Director (Title) (Date)	19			

Please return to:

Thomas S. Martin, P.E. MDT Environmental Services Bureau Chief 2701 Prospect Avenue PO Box 201001 Helena MT 59620-1001

Fax: 406-444-7671

^{*} Please note that if Federal agencies do not state their position in these terms, then the Federal agency should be treated as a participating agency. Designation as a "participating agency" does not imply that the agency supports the proposed project or has any jurisdiction.



Montana Natural Heritage Program

1515 East Sixth Ave., Helena, Montana 59620-1800 (406) 444-5354 http://mtnhp.org

Explanation of Species of Concern Reports

Since 1985, the Montana Natural Heritage Program (MTNHP) has been compiling and maintaining an inventory of elements of biological diversity in Montana. This inventory includes plant species, animal species, plant communities, and other biological features that are rare, endemic, disjunct, threatened, or endangered throughout their range in Montana, vulnerable to extirpation from Montana, or in need of further research.

Species Occurrences: (formerly called 'Element Occurrences') A "Species Occurrence" (SO) is an area depicting only what is known from direct observation with a defined level of certainty regarding the spatial location of the feature. If an observation can be associated with a map feature that can be tracked (e.g., a wetland) then this polygon feature is used to represent the SO. Areas that can be inferred as probable occupied habitat based on direct observation of a species location and what is known about the foraging area or home range size of the species may be incorporated into the Species Occurrence. A "Species Occurrence" generally falls into one of the following three categories:

Plants: A documented location of a specimen collection or observed plant population. In some instances, adjacent, spatially separated clusters are considered subpopulations and are grouped as one occurrence (e.g., the subpopulations occur in ecologically similar habitats, and are within approximately one air mile of one another).

Animals: The location of a specimen collection or of a verified sighting; known or assumed to represent a breeding population. Additional collections or sightings are often appended to the original record.

Other: Significant biological features not included in the above categories, such as bird rookeries, peatlands, or state champion trees.

Ecological Information: Areas for which we have ecological information are represented on the map as either shaded polygons (where small and/or well defined) or simply as map labels (where they are large generally-defined landscapes). Descriptive information about these areas is contained in the associated report. Such information can be useful in assessing biological values and interpreting Species of Concern data.

The quantity and quality of data contained in MTNHP reports is dependent on the research and observations of the many individuals and organizations that contribute information to the program. Please keep in mind that the absence of information for an area does not mean the absence of significant biological features, since no surveys may have been conducted there. Reports produced by the Montana Natural Heritage Program summarize information documented in our databases at the time of a request. These reports are not intended as a final statement on the species or areas being considered, nor are they a substitute for onsite surveys, which may be required for environmental assessments.

As a user of MTNHP, your contributions of data are essential to maintaining the accuracy of our databases. New or updated location information for all species of concern is always welcome.

We encourage you to visit our website at http://mtnhp.org. On-line tools include a species observation viewer: the Natural Heritage TRACKER and *The Montana Field Guide* which contains photos, illustrations, and supporting information on Montana's animals and plant species of concern. Additional data are available on most species and ecological areas identified in our reports.

If you have questions or need further assistance, please contact us either by phone at (406/444-5354), e-mail (mtnhp@mt.gov) or

Data Descriptions

The section below lists the names and definitions for descriptions of the data fields used in the reports. Certain codes and abbreviations are used in Species Occurrence reports. Although many of these are very straightforward, the following explanations should answer most questions.

Map Label: The label for the species occurrence as it appears on the map.

Element Subnational ID: The unique code used by the state or province to identify a specific element (species).

SO Number: Number that identifies the particular occurrence of the element (species).

Scientific Name: Latin (scientific) name.

Common Name: Commonly recognized name.

<u>Species of Concern/Potential Concern</u>: This value indicates whether the species is a "Species of Concern" (Y) or of "Potential Concern" (W).

<u>Last Observation Date</u>: The date the Species Occurrence was last observed extant at the site (not necessarily the date the site was last visited).

First Observation Date: The date the Species Occurrence was first reported at the site.

EO Rank: indicates the relative value of the Species Occurrence (SO) with respect to other occurrences of the Species, based on an assessment of estimated viability (species).

Values:

A - Excellent estimated viability/ecological integrity

A? - Possibly excellent estimated viability/ecological integrity

AB - Excellent or good estimated viability/ecological integrity

AC - Excellent, good, or fair estimated viability/ecological integrity

B - Good estimated viability/ecological integrity

B? - Possibly good estimated viability/ecological integrity

BC - Good or fair estimated viability/ecological integrity

BD - Good, fair, or poor estimated viability/ecological integrity

C - Fair estimated viability/ecological integrity

C? - Possibly fair estimated viability/ecological integrity

CD - Fair or poor estimated viability/ecological integrity

D - Poor estimated viability/ecological integrity

D? - Possibly poor estimated viability/ecological integrity

E - Verified extant (viability/ecological integrity not assessed)

F - Failed to find

F? - Possibly failed to find

H - Historical

H? - Possibly historical

X - Extirpated

X? - Possibly extirpated

U - Unrankable

NR - Not ranked

<u>SO Data</u>: Data collected on the biology of this Species Occurrence. Specific information may include number of individuals, vigor, habitat, soils, associated species, and other characteristics.

Species Status Codes

Provided below are definitions for species conservation status ranks, categories and other codes designated by MTNHP, Federal and State Agencies and non-governmental organizations.

- Montana Species of Concern
- Montana Potential Species of Concern
- Status Under Review
- Exotic Species
- Montana Species Ranking Codes
- U.S. Fish and Wildlife Service
- Forest Service
- Bureau of Land Management
- MFWP Conservation Need
- Partners In Flight (PIF)
- MNPS Threat Category

Species of Concern

Species of Concern are native taxa that are at-risk due to declining population trends, threats to their habitats, restricted distribution, and/or other factors. Designation as a Montana Species of Concern or Potential Species of Concern is based on the Montana Status Rank, and is not a statutory or regulatory classification. Rather, these designations provide information that helps resource managers make proactive decisions regarding species conservation and data collection priorities. See the latest Species of Concern Reports for more detailed explanations and assessment criteria.

Potential Species of Concern

Potential Species of Concern are native taxa for which current, often limited, information suggests potential vulnerability. Also included are animal species which additional data are needed before an accurate status assessment can be made.

Status Under Review

Species designated "Status Under Review" are plant species that require additional information and currently do not have a status rank but may warrant future consideration as Species of Concern. This category also includes plant species whose status rank is questionable due to the availability of new information or the availability of conflicting or ambiguous information or data. Species listed in this category will be reviewed periodically or as new information becomes available.

Exotic Species

Exotic species are not native to Montana, but have either been reported in Montana or have established populations in Montana outside of their native range.

Montana Species Ranking Codes

Montana employs a standardized ranking system to denote global (G) and state (S) status (NatureServe 2003). Species are assigned numeric ranks ranging from 1 (critically imperiled) to 5 (demonstrably secure), reflecting the relative degree to which they are "at-risk". Rank definitions are given below. A number of factors are considered in assigning ranks - the number, size and distribution of known "occurrences" or populations, population trends (if known), habitat sensitivity, life history traits and threats.

For example, Clustered lady's slipper (*Cypripedium fasciculatum*) is ranked G4 S2. Globally the species is uncommon but not vulnerable, while in Montana it is at risk because of limited and potentially declining numbers, extent and/or habitat.

G1 S1

At high risk because of extremely limited and potentially declining numbers, extent and/or habitat, making it highly vulnerable to global extinction or extirpation in the state.

G2 S2

At risk because of very limited and potentially declining numbers, extent and/or habitat, making it vulnerable to global extinction or extirpation in the state.

G3 S3

Potentially at risk because of limited and potentially declining numbers, extent and/or habitat, even though it may be abundant in some areas.

G4 S4

Uncommon but not rare (although it may be rare in parts of its range), and usually widespread. Apparently not vulnerable in most of its range, but possibly cause for long-term concern.

G5 S5

Common, widespread, and abundant (although it may be rare in parts of its range). Not vulnerable in most of its range.

GX SX

Presumed Extinct or Extirpated - Species is believed to be extinct throughout its range or extirpated in Montana. Not located despite intensive searches of historical sites and other appropriate habitat, and small likelihood that it will ever be rediscovered. GH SH

Possibly Extinct or Extirpated - Species is known only from historical records, but may nevertheless still be extant; additional surveys are needed.

GNR SNR

Not yet ranked.

GU SU

Unrankable - Species currently unrankable due to lack of information or due to substantially conflicting information about status or trends.

GNA SNA

A conservation status rank is not applicable for one of the following reasons:

The taxa is of Hybrid Origin; is Exotic or Introduced; is Accidental or is Not Confidently Present in the state. (see other codes below)

Other Codes and Modifiers

HYB

Hybrid-Entity not ranked because it represents an interspecific hybrid and not a species.

Infraspecific Taxon (trinomial) - The status of infraspecific taxa (subspecies or varieties) are indicated by a "T-rank" following the species' global rank.

Inexact Numeric Rank - Denotes inexact numeric rank.

Q

Questionable taxonomy that may reduce conservation priority-Distinctiveness of this entity as a taxon at the current level is questionable; resolution of this uncertainty may result in change from a species to a subspecies or hybrid, or inclusion of this taxon in another taxon, with the resulting taxon having a lower-priority (numerically higher) conservation status rank.

Captive or Cultivated Only - Species at present is extant only in captivity or cultivation, or as a reintroduced population not yet established.

A

C

Accidental - Species is accidental or casual in Montana, in other words, infrequent and outside usual range. Includes species (usually birds or butterflies) recorded once or only a few times at a location. A few of these species may have bred on the one or two occasions they were recorded.

SYN

Synonym - Species reported as occurring in Montana, but the Montana Natural Heritage Program does not recognize the taxon; therefore the species is not assigned a rank.

B

Breeding - Rank refers to the breeding population of the species in Montana.

N

Nonbreeding - Rank refers to the non-breeding population of the species in Montana.

M

Migratory - Species occurs in Montana on during migration.

U.S. Fish and Wildlife Service

LE PE

Listed endangered - Any species in danger of extinction throughout all or a significant portion of its range (16 U.S.C. 1532(6)).

Proposed endangered - Any species for which a proposed rule has been published in the Federal Register to list the species as endangered.

LT

Listed threatened - Any species likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range (16 U.S.C. 1532(20)).

Proposed threatened - Any species for which a proposed rule has been published in the Federal Register to list the species as threatened.

E(S/A) or T(S/A)

Any species listed endangered or threatened because of similarity of appearance.

Candidate - Those taxa for which sufficient information on biological status and threats exists to propose to list them as threatened or endangered. We encourage their consideration in environmental planning and partnerships; however, none of the substantive or procedural provisions of the Act apply to candidate species.

PDL

Proposed for delisting - Any species for which a final rule has been published in the Federal Register to delist the species.

DM

Recovered, delisted, and being monitored - Any previously listed species that is now recovered, has been delisted, and is being monitored.

Not listed - No designation.

ΧE

NL

Essential experimental population - An experimental population whose loss would be likely to appreciably reduce the likelihood of the survival of the species in the wild.

XN

Nonessential experimental population - An experimental population of a listed species reintroduced into a specific area that receives more flexible management under the Act.

Critical Habitat - The specific areas (i) within the geographic area occupied by a species, at the time it is listed, on which are found those physical or biological features (I) essential to conserve the species and (II) that may require special management considerations or protection; and (ii) specific areas outside the geographic area occupied by the species at the time it is listed upon determination that such areas are essential to conserve the species.

Partial status - status in only a portion of the species' range. Typically indicated in a "full" species record where an infraspecific taxon or population, that has a record in the database has USESA status, but the entire species does not.

Partial status - status in only a portion of the species' range. The value of that status appears in parentheses because the entity with status is not recognized as a valid taxon by Central Sciences (usually a population defined by geopolitical boundaries or defined administratively, such as experimental populations.

Forest Service

The status of species on Forest Service lands as defined by the U.S. Forest Service manual (2670.22). These taxa are listed as such by the Regional Forester (Northern Region). The Forest Service lists animal species as:

Endangered

Listed as Endangered (LE) by the USFWS.

Threatened

Listed as Threatened (LT) by the USFWS.

Any species for which the Regional Forester has determined there is a concern for population viability within the state, as evidenced by a significant current or predicted downward trend in populations or habitat.

Species of Concern

USFS Species-of-Concern (FSH 1909.12, 43.22b) are species for which the Responsible Official determines management actions may be necessary to prevent listing under the Endangered Species Act (ESA). The Responsible Official, as appropriate, may identify the following plant and animal species, including macro-lichens, as species-of-concern:

Species identified as proposed and candidate species under the ESA.

Species with ranks of G-1 through G-3 on the NatureServe ranking system. 2.

Infraspecific (subspecific) taxa with ranks of T-1 through T-3 on the NatureServe ranking system.

Species that have been petitioned for federal listing and for which a positive "90-day finding" has been made (a 90-day finding is a preliminary finding that substantive information was provided indicating that the petition listing may be warranted and a full status review will be conducted).

Species that have been recently delisted (these include species delisted within the past five years and other delisted species for which regulatory agency monitoring is still considered necessary).

Species of Interest

USFS Species-of-Interest (FSH 1909.12, 43.22c) are species for which the Responsible Official determines that management actions may be necessary or desirable to achieve ecological or other multiple-use objectives. The Responsible Official may review the following sources for potential species-of-interest:

1. Species with ranks of S-1, S-2, N1, or N2 on the NatureServe ranking system.

State listed threatened and endangered species that do not meet the criteria as species-of-concern. 2.

Species identified as species of conservation concern in State Comprehensive Wildlife Strategies.

Bird species on the U.S. Fish and Wildlife Service Birds of Conservation Concern National Priority list (for the U.S. portion of the northern Rockies that occur on National Forest system lands).

- Additional species that valid existing information indicates are of regional or local conservation concern (this includes all Forest Service Northern Region sensitive species) due to factors that may include:
 - Significant threats to populations or habitat.
 - Declining trends in populations or habitat. b.

C. Rarity.

Restricted ranges (for example, narrow endemics, disjunct populations, or species at the edge of their

Species that are hunted or fished and other species of public interest. Invasive species may also be considered.

Bureau of Land Management

BLM Sensitive Species are defined by the BLM 6840 Manual as those that normally occur on Bureau administered lands for which BLM has the capability to significantly affect the conservation status of the species through management. The State Director may designate additional categories of special status species as appropriate and applicable to his or her state's needs. The sensitive species designation, for species other than federally listed, proposed, or candidate species, may include such native species as those that:

- 1. could become endangered in or extirpated from a state, or within a significant portion of its distribution in the foreseeable future.
- are under status review by FWS and/or NMFS,
- 3. are undergoing significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution.

4. are undergoing significant current or predicted downward trends in population or density such that federally listed, proposed, candidate, or State listed status may become necessary,

have typically small and widely dispersed populations,

are inhabiting ecological refugia, specialized or unique habitats, or

are State listed but which may be better conserved through application of BLM sensitive species status. Such species should be managed to the level of protection required by State laws or under the BLM policy for candidate species, whichever would provide better opportunity for its conservation.

MFWP Conservation Need

In recent years states have received federal funding to develop Comprehensive Fish and Wildlife Conservation Strategies. Montana Fish, Wildlife, and Parks completed Montana's Comprehensive Fish and Wildlife Conservation Strategy in 2005. Under this conservation strategy individual animal species were assigned levels of conservation need as follows:

Tier I: Greatest conservation need. Montana Fish, Wildlife & Parks has a clear obligation to use its resources to implement conservation actions that provide direct benefit to these species, communities, and focus areas.

Tier II: Moderate conservation need. Montana Fish, Wildlife & Parks could use its resources to implement conservation actions that provide direct benefit to these species, communities, and focus areas.

Tier III:

Tier III: Lower conservation need. Although important to Montana's wildlife diversity, these species, communities, and focus areas are either abundant and widespread or are believed to have adequate conservation already in place. Tier IV:

Tier IV: Species that are non-native, incidental, or on the periphery of their range and are either expanding or very common in

Partners In Flight (PIF)

Partners In Flight (PIF) is a partnership of federal and state agencies, industry, non-governmental organizations, and many others, with the goal of conserving North American birds. In 1991, PIF began developing a formal species assessment process that could provide consistent, scientific evaluations of conservation status across all bird species in North America, and identify areas most important to the conservation of each species. This process applies quantitative rule sets to complex biological data on the population size, distribution, population trend, threats, and regional abundance of individual bird species to generate simple numerical scores that rank each species in terms of its biological vulnerability and regional status. The process results in global and regional conservation assessments of each bird species that, among other uses, can be used to objectively assign regional and continental conservation priorities among birds. The species assessment scores and process has recently been updated! Check out the new scores and make sure to download and read the updated Handbook on Species Assessment, which contains important information on the how scores are derived and used in the assessment process. Note that currently only breeding-season regional scores are available for BCRs. We hope to have non-breeding scores available soon. For those needing access to the previous versions of the PIF Species Assessment Database, including past regional scores for physiographic areas, click here.

Montana Native Plant Society (MNPS) Threat Category

The MNPS Threat Category process was initiated in 2006 at the Montana Plant Conservation Conference with the formation of a committee represented by federal, state and private botanists, ecologists and biologists. The objectives were to: 1) Evaluate threats impacting Montana's Plant Species of Concern and to classify species according to their level of imperilment/risk as a result of these threats. 2) Develop a ranking system based on the impacts of the identified threats to the species' viability in the state. The result of this process is a 4-tier threat ranking system for Plant Species of Concern in Montana. The threat categories are:

The viability of the species in the state is Highly Threatened by one or more activities. Associated threats have caused or are likely to cause a major reduction of the state population or its habitat that will require 50 years or more for recovery, 20% or more of the state population has been or will be affected, and the negative impact is occurring or is likely to occur within the next

Category 2:

The viability of the species or a portion of the species habitat in the state is Threatened by one or more activities, though impacts to the species are expected to be less severe than those in Category 1. Associated threats exist but are not as severe, wide-ranging or immediate as for Category 1, though negative impacts are occurring or are likely to occur.

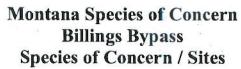
The viability of the species in the state is Not Threatened or the Threats are Insignificant. Associated threats are either not known to exist, are not likely to occur in the near future or are not known to be having adverse impacts that will severely affect

Category 4:

Assessment not possible due to insufficient and/or conflicting information on potential threats to the species.

Please visit the MNPS website at http://www.mtnativeplants.org for additional information on MNPS Threat Categories or for MNPS

er.			



SPECIES OF CONCERN: A polygon feature representing only what is known from direct observation with a defined level of certainty regarding the spatial location of the feature.

NonVascular Plants

Vascular Plants

Vascular Plants

Invertebrates

Invertebrates

Amphibians

Fish

Fish

Reptiles

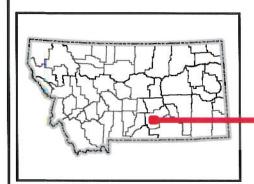
Birds

Mammals

Mammals

Mammals

Mammals

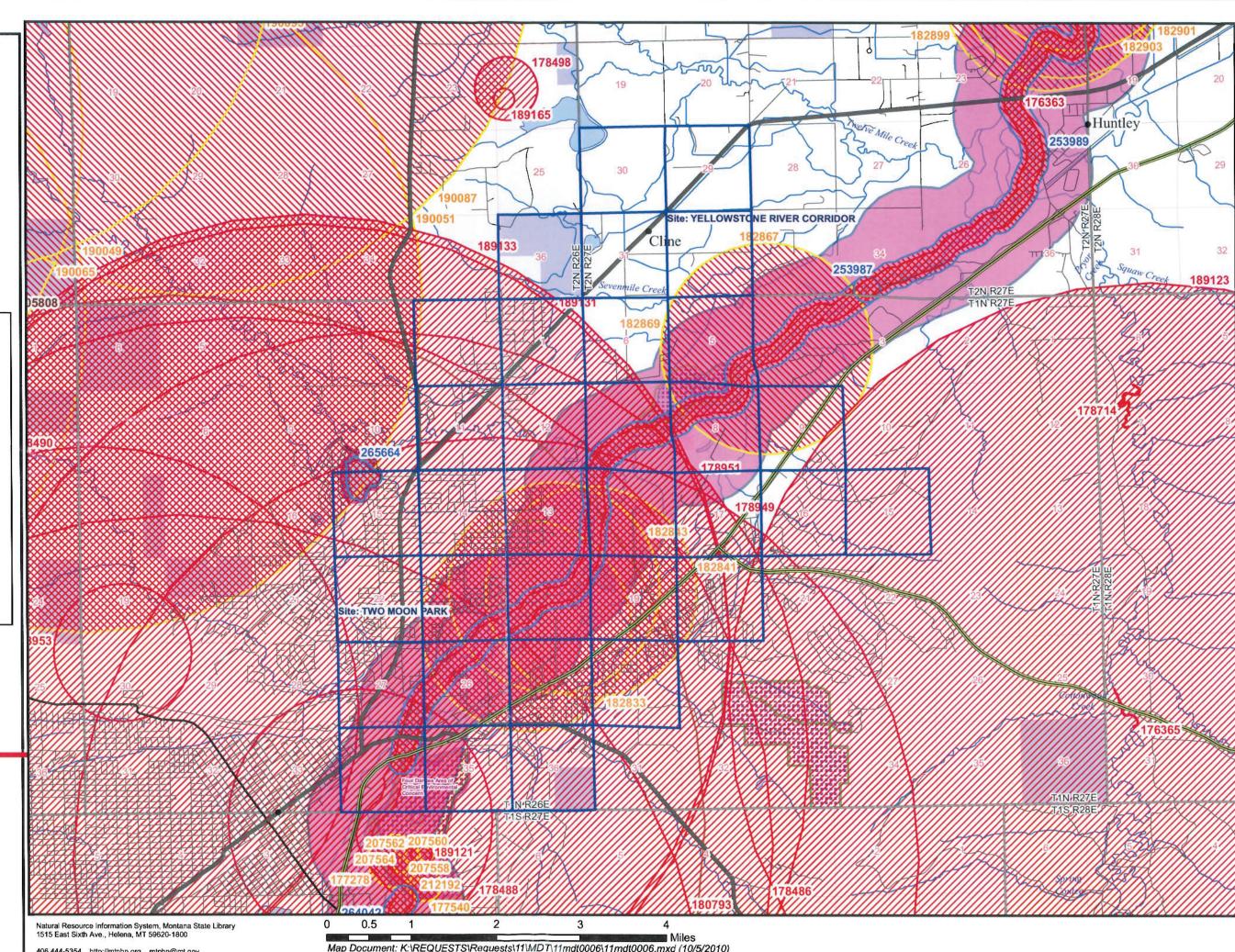


Not all legend items may occur on the map.

Features shown on this map do not imply public access to any lands.

This map displays management status, which may vary from ownership.







Species of Concern Data Report

Visit http://mtnhp.org for additional information.

Report Date: Tuesday, October 5, 2010

Haliaeetus leucocephalus

View Species Info in MT Field Guide

Common Name: Bald Eagle **Description:** Vertebrate Animal

Mapping Delineation:

Confirmed nesting area buffered by a minimum distance of 2,000 meters in order to be conservative about encompassing the breeding territory and area commonly used for renesting and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters.

Species Status

Natural Heritage Ranks:

Federal Agency Status:

Click for Status Help

State: Global: G5

U.S. Fish & Wildlife Service: DM U.S. Forest Service: THREATENED

U.S. Bureau of Land Management: SENSITIVE

FWP CFWCS Tier: 1

MT PIF Code:

Species Occurrences

Species Occurence Map Label:

182833

First Observation Date: 2003-03-01 Last Observation Date: 2003-08-01

SO Number:

SO Rank:

417,176

Acreage: 3,089

Species Occurence Map Label: 182841

First Observation Date: 2005-03-01 Last Observation Date: 2005-08-01

SO Number: Acreage:

417,177 3.089

417,178

SO Rank:

Species Occurence Map Label: 182843

First Observation Date: 2001-03-01

Last Observation Date: 2001-08-01

SO Number:

3.089

Acreage: SO Rank:

Species Occurence Map Label: 182867

First Observation Date: 1997-03-01 Last Observation Date: 2001-08-01

SO Number: Acreage:

417,424 3,089

SO Rank:

Species Occurence Map Label:

182869

SO Number:

417,527

First Observation Date: 1995-03-01 Last Observation Date: 2000-08-01

Acreage:

3.089

SO Rank:

Falco peregrinus

View Species Info in MT Field Guide

Common Name: Peregrine Falcon **Description:** Vertebrate Animal

Mapping Delineation:

Confirmed nesting area buffered by a minimum distance of 500 meters in order to encompass the area around the nest known to be defended by adults as well as the minimum distance reported between nests. Otherwise the nest area is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters.



Species of Concern Data Report

Visit http://mtnhp.org for additional information.

Report Date: Tuesday, October 5, 2010

Species Status

Natural Heritage Ranks:

State: Global: G4

FWP CFWCS Tier: 2

Federal Agency Status:

Click for Status Help

U.S. Fish & Wildlife Service: DM U.S. Forest Service: SENSITIVE

U.S. Bureau of Land Management: SENSITIVE

MT PIF Code:

Species Occurrences

Species Occurence Map Label:

177278

SO Number: 734,855

193

First Observation Date:

Acreage:

Last Observation Date:

SO Rank:

Centrocercus urophasianus

View Species Info in MT Field Guide

Common Name: Greater Sage-Grouse **Description:** Vertebrate Animal

Mapping Delineation:

Confirmed breeding area based on the presence of a nest, chicks, juveniles, or adults on a lek. Point observation location is buffered by a minimum distance of 6,400 meters in order to encompass the latest research on the area used for breeding, nesting, and brood rearing and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters.

Species Status

Natural Heritage Ranks:

Federal Agency Status:

Click for Status Help

State: Global: G4 U.S. Fish & Wildlife Service: U.S. Forest Service: SENSITIVE

U.S. Bureau of Land Management: SENSITIVE

FWP CFWCS Tier: 1

MT PIF Code:

Species Occurrences

Species Occurence Map Label:

190051

SO Number: 719,962 31,636

First Observation Date: 1980-04-01 Last Observation Date: 1987-05-15

Acreage:

SO Rank:

Species Occurence Map Label:

190087

SO Number: 725,876

First Observation Date: 1971-04-01 Last Observation Date: 2007-05-15

Acreage:

31,636

SO Rank:

Lanius Iudovicianus

View Species Info in MT Field Guide

Common Name: Loggerhead Shrike **Description:** Vertebrate Animal

Mapping Delineation:

Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 300 meters in order to encompass the maximum breeding territory size reported for the species in Alberta and Idaho and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters.



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Species of Concern Data Report

Visit http://mtnhp.org for additional information.

Report Date: Tuesday, October 5, 2010

Species Status

Natural Heritage Ranks:

State: S₃B Global: G4

FWP CFWCS Tier: 2

Federal Agency Status:

Click for Status Help

U.S. Fish & Wildlife Service:

U.S. Forest Service:

U.S. Bureau of Land Management: SENSITIVE

MT PIF Code:

Species Occurrences

Species Occurence Map Label:

177540

SO Number: 536.655

First Observation Date: Last Observation Date:

Acreage: SO Rank:

70

Spizella breweri

View Species Info in MT Field Guide

Common Name: Brewer's Sparrow **Description:** Vertebrate Animal

Mapping Delineation:

Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 100 meters in order to encompass the maximum territory size reported for the species and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters.

Species Status

Natural Heritage Ranks:

Federal Agency Status:

Click for Status Help

State: S3B Global: G5

U.S. Fish & Wildlife Service:

U.S. Forest Service:

U.S. Bureau of Land Management: SENSITIVE

FWP CFWCS Tier: 2

MT PIF Code:

Species Occurrences

Species Occurence Map Label:

207558

SO Number:

524,601

First Observation Date: 2002-06-27

Acreage:

13

Last Observation Date: 2002-06-27

SO Rank:

Species Occurence Map Label:

207560

SO Number:

553.764

First Observation Date: 2002-06-27 Last Observation Date: 2002-06-27

Acreage: SO Rank: 13

Species Occurence Map Label:

207562

SO Number:

548,646

First Observation Date: 2002-06-27 Last Observation Date: 2004-07-02

Acreage: SO Rank:

13



Species of Concern Data Report

Visit http://mtnhp.org for additional information.

Report Date: Tuesday, October 5, 2010

Species Occurrences

Species Occurence Map Label: 207564

First Observation Date: 2002-06-27

Last Observation Date: 2004-07-02

SO Number: 650,290

Acreage: 13

SO Rank:

Ammodramus savannarum

View Species Info in MT Field Guide

Common Name: Grasshopper Sparrow

Description: Vertebrate Animal

Mapping Delineation:

Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 75 meters in order to encompass the majority of breeding territory sizes reported for the species and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters.

Species Status

Natural Heritage Ranks:

Federal Agency Status:

Click for Status Help

State: S3B Global: G5

U.S. Fish & Wildlife Service:

U.S. Forest Service:

U.S. Bureau of Land Management:

FWP CFWCS Tier: 2

MT PIF Code:

Species Occurrences

Species Occurence Map Label: 212192

First Observation Date: 2002-06-27

Last Observation Date: 2002-06-27

SO Number: 677,939

Acreage: 13

SO Rank:

Oncorhynchus clarkii bouvieri

View Species Info in MT Field Guide

Common Name: Yellowstone Cutthroat Trout

Description: Vertebrate Animal

Mapping Delineation:

Stream reaches and standing water bodies where the species presence has been confirmed through direct capture or where they are believed to be present based on the professional judgement of a fisheries biologist due to confirmed presence in adjacent areas. In order to reflect the importance of adjacent terrestrial habitats to survival, stream reaches are buffered 100 meters, standing water bodies greater than 1 acre are buffered 50 meters, and standing water bodies less than 1 acre are buffered 30 meters into the terrestrial habitat based on PACFISH/INFISH Riparian Conservation Area standards.

Species Status

Natural Heritage Ranks:

Federal Agency Status:

Click for Status Help

State: Global: G4T2

U.S. Fish & Wildlife Service: U.S. Forest Service: SENSITIVE

U.S. Bureau of Land Management: SENSITIVE

FWP CFWCS Tier: 1

MT PIF Code:



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Species of Concern Data Report

Visit http://mtnhp.org for additional information.

Report Date: Tuesday, October 5, 2010

Species Occurrences

Species Occurence Map Label:

264042

SO Number: 57.001

First Observation Date: Last Observation Date:

Acreage: SO Rank: 638

Species Occurence Map Label:

265664

SO Number: 54,314

First Observation Date:

Acreage:

92

Last Observation Date:

SO Rank:

Sander canadensis

View Species Info in MT Field Guide

Common Name: Sauger

Description: Vertebrate Animal

Mapping Delineation:

Stream reaches and standing water bodies where the species presence has been confirmed through direct capture or where they are believed to be present based on the professional judgement of a fisheries biologist due to confirmed presence in adjacent areas. In order to reflect the importance of adjacent terrestrial habitats to survival, stream reaches are buffered 100 meters, standing water bodies greater than 1 acre are buffered 50 meters, and standing water bodies less than 1 acre are buffered 30 meters into the terrestrial habitat based on PACFISH/INFISH Riparian Conservation Area standards

Species Status

Natural Heritage Ranks:

Federal Agency Status:

Click for Status Help

State: Global: G5

U.S. Fish & Wildlife Service:

U.S. Forest Service:

U.S. Bureau of Land Management: SENSITIVE

FWP CFWCS Tier: 1

MT PIF Code:

Species Occurrences

Species Occurence Map Label:

253987

SO Number: 380

First Observation Date:

Acreage:

1,783

Last Observation Date:

SO Rank:

Euderma maculatum

View Species Info in MT Field Guide

Common Name: Spotted Bat **Description:** Vertebrate Animal

Mapping Delineation:

Confirmed area of occupancy based on the documented presence of adults or juveniles during the active season. Point observation location is buffered by a distance of 10,000 meters in order to encompass the reported maximum foraging distance for the species in British Columbia.



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Species of Concern Data Report

Visit http://mtnhp.org for additional information.

Report Date: Tuesday, October 5, 2010

Species Status

Natural Heritage Ranks:

State:

Global: G4

FWP CFWCS Tier: 1

Federal Agency Status:

Click for Status Help

U.S. Fish & Wildlife Service: U.S. Forest Service: SENSITIVE

U.S. Bureau of Land Management: SENSITIVE

MT PIF Code:

Species Occurrences

Species Occurence Map Label: First Observation Date: 1949-06-27

Last Observation Date: 1949-06-27

205808

SO Number: 5.770

Acreage:

77,237

SO Rank:

Apalone spinifera

View Species Info in MT Field Guide

Common Name: Spiny Softshell Description: Vertebrate Animal

Mapping Delineation:

Stream reaches where the species presence has been confirmed through direct capture or where they are believed to be present based on the professional judgement of a biologist due to confirmed presence in adjacent areas. In order to reflect the importance of adjacent terrestrial habitats to survival, stream reaches are buffered 100 meters into the terrestrial habitat based on PACFISH/INFISH Riparian Conservation Area standards.

Species Status

Natural Heritage Ranks:

Federal Agency Status:

Click for Status Help

State: S3 Global: G5

U.S. Fish & Wildlife Service: U.S. Forest Service:

U.S. Bureau of Land Management: SENSITIVE

FWP CFWCS Tier: 1

MT PIF Code:

Species Occurrences

Species Occurence Map Label:

176363

SO Number:

First Observation Date: 1806-07-29 Last Observation Date: 2006-07-11

Acreage: SO Rank: 43,253

Phrynosoma hernandesi

View Species Info in MT Field Guide

Common Name: Greater Short-horned Lizard

Description: Vertebrate Animal

Mapping Delineation:

Confirmed breeding area based on the presence of a resident animal of any age. Point observation location is buffered by a minimum distance of 300 meters in order to encompass habitats supporting other individuals and documented distances moved betweeen summer and winter habitats. Otherwise the point observation is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters.



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Species of Concern Data Report

Visit http://mtnhp.org for additional information.

Report Date: Tuesday, October 5, 2010

Species Status

Natural Heritage Ranks:

State: Global: G5

FWP CFWCS Tier: 2

Federal Agency Status:

Click for Status Help

U.S. Fish & Wildlife Service: U.S. Forest Service: SENSITIVE

U.S. Bureau of Land Management: SENSITIVE

MT PIF Code:

Species Occurrences

Species Occurence Map Label:

178949

SO Number: 2.027

First Observation Date: 1806-12-31 Last Observation Date: 2003-12-31

Acreage:

49,431

SO Rank:

Species Occurence Map Label:

178951

SO Number: 2.029

First Observation Date: 1904-07-01 Last Observation Date: 1904-07-16

Acreage:

49,431

SO Rank:

Sceloporus graciosus

View Species Info in MT Field Guide

Common Name: Common Sagebrush Lizard

Description: Vertebrate Animal

Mapping Delineation:

Confirmed breeding area based on the presence of a resident animal of any age. Point observation location is buffered by a minimum distance of 200 meters in order to encompass habitats supporting other individuals in adjacent territories. Otherwise the point observation is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters.

Species Status

Natural Heritage Ranks:

Federal Agency Status:

Click for Status Help

State: Global: G5

U.S. Fish & Wildlife Service:

U.S. Forest Service:

U.S. Bureau of Land Management:

FWP CFWCS Tier: 2

MT PIF Code:

Species Occurrences

Species Occurence Map Label:

189121

SO Number: 394,093

First Observation Date: 2005-05-20 Last Observation Date: 2005-05-20

Acreage: SO Rank: 31

Species Occurence Map Label:

189123

SO Number:

2,035

First Observation Date: 1961-07-08 Last Observation Date: 1961-07-08

Acreage: SO Rank:

49,431

Montana Natural Heritage Program Species of Concern Report

10/5/2010

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Species of Concern Data Report

Visit http://mtnhp.org for additional information.

Report Date: Tuesday, October 5, 2010

Species Occurrences

Species Occurence Map Label:

First Observation Date: 1909-08-18

Last Observation Date: 1909-08-23

SO Number:

582.768

Acreage: SO Rank: 49,431

Species Occurence Map Label:

189133 First Observation Date: 1909-07-28

Last Observation Date: 1909-07-28

SO Number: 2,036

49,431

Acreage: SO Rank:

Species Occurence Map Label:

189165

189131

First Observation Date: 2005-06-05 Last Observation Date: 2005-06-05

SO Number: 394,111

31

Acreage: SO Rank:

Heterodon nasicus

View Species Info in MT Field Guide

Common Name: Western Hog-nosed Snake

Description: Vertebrate Animal

Mapping Delineation:

Confirmed breeding area based on the presence of a resident animal of any age. Point observation location is buffered by a minimum distance of 500 meters in order to encompass the maximum summer home range size reported for the congeneric Eastern Hog-nosed Snake and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters.

Species Status

Natural Heritage Ranks:

Federal Agency Status:

Click for Status Help

State: Global: G5

U.S. Fish & Wildlife Service: U.S. Forest Service: SENSITIVE

U.S. Bureau of Land Management: SENSITIVE

FWP CFWCS Tier: 1

MT PIF Code:

Species Occurrences

Species Occurence Map Label:

180793

SO Number: 2,067

First Observation Date: 1909-08-27

Acreage: 77,237

Last Observation Date: 1909-08-27

SO Rank:

Lampropeltis triangulum

View Species Info in MT Field Guide

Common Name: Milksnake **Description:** Vertebrate Animal

Mapping Delineation:

Confirmed breeding area based on the presence of a resident animal of any age. Point observation location is buffered by a minimum distance of 300 meters in order to encompass the maximum summer home range size reported for the species and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters.

Montana Natural Heritage Program Species of Concern Report

10/5/2010



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Species of Concern Data Report

Visit http://mtnhp.org for additional information.

Report Date: Tuesday, October 5, 2010

Species Status

Natural Heritage Ranks:

State: Global: G5

FWP CFWCS Tier: 1

Federal Agency Status:

Click for Status Help

U.S. Fish & Wildlife Service: U.S. Forest Service: SENSITIVE

U.S. Bureau of Land Management: SENSITIVE

MT PIF Code:

Species Occurrences

Species Occurence Map Label:

First Observation Date: 1909-08-01 Last Observation Date: 1909-08-31

178486 SO Number: 582,975

77,237

Acreage: SO Rank:

Species Occurence Map Label:

178488 First Observation Date: 1971-05-01 Last Observation Date: 1971-05-15

SO Number: 3,199 Acreage:

4,827

SO Rank:

Species Occurence Map Label: 178490

First Observation Date: 1947-07-17 Last Observation Date: 1947-07-17

SO Number: 20,866

Acreage:

19,309

SO Rank:

Species Occurence Map Label: 178498

First Observation Date: 1950-01-01 Last Observation Date: 1959-12-31

SO Number: Acreage:

394,295 278

SO Rank:

Natural Heritage Data Report

Visit http://mtnhp.org for additional information.

Tuesday, October 5, 2010

Ecological Information

YELLOWSTONE RIVER CORRIDOR

The geographic scope of your data search intersected an area for which the Natural Heritage Program databases have ecological information. Such information can be useful in assessing biological values and interpreting Species of Concern data. A summary is provided below of conditions at the time of site record creation.

YELLOWSTONE RIVER CORRIDOR

General Description

This Yellowstone River Corridor is located along the Yellowstone River in south central Montana. This area has a rich diversity of aquatic, riverine, wetland and adjacent upland habitats along the main-stem of the Yellowstone River from the Wyoming border to the confluence with the Bighorn River. Unlike most major rivers in the west, the Yellowstone River is free from major impoundments that have dramatically altered the hydrologic regime. The Yellowstone is characterized as a relatively free-flowing river. The intact hydrology and river dynamics give rise to important cottonwood floodplain communities. The aquatic environments include both cold water and warm water species. Adjacent uplands (within the 1 kilometer buffer) include benches, slopes, cliffs, rock outcrops and historic river-bottom that support shrublands of sagebrush (all three subspecies of *Artemisia tridentata*), grasslands consisting of bluebunch wheatgrass, and woodlands of primarily ponderosa pine (*Pinus ponderosa*).

Biological Significance

The Yellowstone River Corridor contains a diverse environment. In the headwaters near the Wyoming border, the river corridor includes habitat for grizzly bear (*Ursus arctos horribilis*), Canada lynx (*Lynx canadensis*), and gray wolf (*Canis lupus*). Cold water aquatic environments support Yellowstone cutthroat trout (*Oncorhynchus clarki bouvieri*). Downstream warm water aquatic species include pallid sturgeon (*Scaphirhynchus albus*), paddlefish (*Polyodon spathula*), blue sucker (*Cycleptus elongatus*), the sicklefin chub (*Hybopsis meeki*) and sturgeon chub (*Macrhybopsis gelida*). River and floodplain habitats are very important ecologically; three species of cottonwoods, narrowleaf cottonwood (*Populus angustifolia*), black cottonwood (*Populus balsamifera spp. trichocarpa*) and plains cottonwood (*Populus deltoides*) occur in gallery forests and terraces and provide habitat for nesting, wintering and migrating bald eagle (*Haliaeetus leucocephalus*) and rookery sites for blue heron. Channel gravel and sandbars provide habitat for spiny softshell (*Trionyx spiniferus*) and persistent-sepal yellowcress (*Rorippa calcyina*), although this species has not been relocated in recent years. Riparian communities include the state significant plants beaked spikerush (*Eleocharis rostellata*) and Schweinitz's flatsedge (*Cyperus schweinitzii*). Notable shorebirds recorded from this stretch include the Interior Least Tern (*Sterna antillarum athalassos*). Two reptiles, the western hognose snake (*Heterodon nasicus*) and milk snake (*Lampropeltis triangulum*) have been reported from the river corridor.

Key Ecological Factors

Seasonal flooding is the principal process facilitating the establishment and regeneration of cottonwood forests and riparian communities. Consequently, the process of seasonal flooding has direct implications to the numerous plant and animal species occurring within the river corridor.

Exotic Species

There are infestations of numerous exotic plant species and populations of exotic fish species. Non-native salmonid species compete and / or hybridize with the Yellowstone cutthroat trout (*Oncorhynchus clarki bouvieri*).

Other Values

The Yellowstone River is a relatively free flowing river, restricted only by the occasional riprap along the banks and numerous irrigation diversions and pumping stations. This area captures nesting and foraging habitats of a plethora of species associated with the river and its floodplain.

Management Information

Agriculture, rural and urban developments and subsequent bank stabilization activities take place along the corridor. Diversions and dams for irrigation canals exit along the main stem and tributaries of the upper Yellowstone River. Irrigation is the major water use. Both irrigation and municipal use of groundwater have increased since 1970, and over 7,000 new wells have been drilled within 5 miles of either side of the bank along the upper Yellowstone River in Montana (MT Bureau of Mines and Geology Wells database).

Natural Heritage Data Report

Visit http://mtnhp.org for additional information.

Tuesday, October 5, 2010

Ecological Information

YELLOWSTONE RIVER CORRIDOR

Information Gaps

An assessment of the health, population structure and age of cottonwoods along islands in the main channel would quantify the dynamics of cottonwood and channel bar establishment.

The geographic scope of your data search intersected an area for which the Natural Heritage Program databases have ecological information. Such information can be useful in assessing biological values and interpreting Species of Concern data. A summary is provided below of conditions at the time of site record creation.

TWO MOON PARK

General Description

Two Moon Park is located in the floodplain of the the Yellowstone River in the unglaciated High Plains. This area is located within the city of Billings and occurs between low bluffs that overlook the river and the river's active channel. The landscape consists of a mosaic of communities that occur on different fluvial landforms. On recently created mid-channel bars, the vegetation is very weedy and is dominated by leafy spurge (*Euphorbia esula*) and sandbar willow (*Salix exigua*). Recently deposited side bars and sloughs are dominated by sandbar willow and the exotic reed canarygrass (*Phalaris arundinacea*), with wetter microsites occupied by monospecific stands of reed canarygrass.

Higher portions of the floodplain are a mosaic of plains cottonwood / western snowberry (*Populus deltoides* / *Symphoricarpos occidentalis*) woodland and herbaceous openings. The cottonwood stands are open woodlands with a locally abundant mid-canopy of the exotic Russian olive (*Elaeagnus angustifolia*). The herbaceous layer is dominated by the exotic grasses Canada bluegrass (*Poa compressa*), Kentucky bluegrass (*Poa pratensis*), and smooth brome (*Bromus inermis*). The herbaceous openings are also largely dominated by the same exotic grasses; however, patches of western wheatgrass (*Pascopyrum smithii*) still dominate some low-lying swales, although some of these are being invaded by cheatgrass (*Bromus tectorum*). Seepy, groundwater-receiving sites at the base of the bluffs are dominated by broadleaf cattail (*Typha latifolia*) and reed canarygrass. A small stand of peachleaf willow (*Salix amygdaloides*) occurs along one of the sloughs.

Biological Significance

No special status plants or animals were observed. Two state significant plant communities, plains cottonwood / western snowberry (*Populus deltoides / Symphoricarpos occidentalis*), and peachleaf willow (*Salix amygdaloides*), were documented in fair to poor condition.

Key Ecological Factors

Flooding, and the associated erosion, deposition, and channel migration, is the dominant process influencing vegetation. Vegetation is also influenced by microtopography and by seepage from the toeslope of the bluffs.

Exotic Species

Exotic grasses dominate the ground layer in this area, especially Kentucky bluegrass (*Poa pratensis*) and smooth brome (*Bromus inermis*). Reed canarygrass (*Phalaris arundinacea*) dominates many mesic portions of the area, such as sloughs. Cheatgrass (*Bromus tectorum*) currently occurs as several small monospecific stands, but it is likely to spread. Leafy spurge (*Euphorbia esula*) is scattered in small patches except on mid-channel bars where it is the dominant species. Hound's tongue (*Cynoglossum officinale*) and Canada thistle (*Cirsium arvense*) are common throughout the area. Russian olive (*Elaeagnus angustifolia*) is well established in the cottonwood stands. It is likely that as the cottonwoods die (and many of the cottonwoods are mature or senescent), these stands will convert to a Russian olive-dominated community. This conversion will have unknown habitat and biodiversity implications.

Other Values

This area offers habitat for many Neotropical migrant birds and other wildlife. This area is also locally important because of habitat fragmentation in the greater Billings metropolitan area.

Management Information

This area occurs as an isolated fragment of riparian vegetation within the urban/industrial context of Billings. Although it is unlikely that native species will reclaim the herbaceous layer, the more aggressive exotic species such as leafy spurge (Euphorbia esula) and cheatgrass (Bromus tectorum) could be controlled.



Natural Heritage Data Report

Visit http://mtnhp.org for additional information.

Tuesday, October 5, 2010

Ecological Information

TWO MOON PARK

Information Gaps

Information on the history of gravel extraction and grazing in this area is lacking.

A GUIDE TO WETLAND AND DEEPWATER HABITATS CLASSIFICATION USED IN THE NATIONAL WETLAND INVENTORY (NWI) MAPPING IN MONTANA



Purpose:

The Montana Wetland and Riparian Mapping Center uses the Cowardin classification system (Cowardin et al. 1979) adopted by the National Wetland Inventory (NWI) for wetlands (FGDC Wetlands Subcommittee, 2009). The riparian system follows the U.S. Fish and Wildlife Service (USFWS) standard (U.S. Fish and Wildlife Services, 2009). NWI is the standard classification system for wetland mapping across the United States. For ease of display and interpretation the NWI attributes have been grouped into major wetland and riparian types.

Wetlands

In Montana, there are three NWI wetland systems: Palustrine, Lacustrine, and Riverine.

PALUSTRINE:

- In Montana, this system includes all wetlands dominated by trees, shrubs, and emergent, herbaceous vegetation.
- Wetlands lacking vegetation are included if they are less than 8 hectares (20 acres) in size and are less than 2 meters (6.6 feet) deep in the deepest portion of the wetland.

Freshwater pond:

- Wetlands with vegetation growing on or below the water surface for most of the growing season.

Freshwater Emergent Wetland:

 Wetlands with erect, rooted herbaceous vegetation present during most of the growing season.

Freshwater Shrub Wetland:

Wetlands dominated by woody vegetation less than 6 meters (20 feet) tall. Woody
vegetation includes tree saplings and trees that are stunted due to environmental
conditions.

Freshwater Forested Wetland:

- Wetlands dominated by woody vegetation greater than 6 meters (20 feet) tall.

LACUSTRINE (Lakes):

- This system includes any large body of water that is greater than 8 hectares (20 acres) in size OR is more than 2 meters (6.6 feet) deep.
- This system is usually found in a topographic depression. It may also be formed by damming of a river channel.

RIVERINE (Rivers and streams and shore):

- This system includes all wetlands and deepwater habitats that are within natural and artificial channels.
- These systems contain either continuous (perennial) or intermittently flowing water.

RIPARIAN:

The Wetland and Riparian Mapping Center uses the riparian classification system developed by the U.S. Fish and Wildlife Service to map riparian areas in Montana. The riparian classification types listed below are followed by the coding convention used for mapping purposes.

- Plant communities (trees, shrubs and/or herbaceous plants)contiguous to rivers, streams, lakes, or drainage ways.
- Riparian areas are influenced by both surface and below surface hydrology.
- The plant species present in riparian areas are distinctly different from plant species found in adjacent areas.
- Plants in riparian areas demonstrate more vigorous or robust growth forms than in adjacent areas.

Riparian Classes:

Scrub-Shrub (SS):

- This type of riparian area is dominated by woody vegetation that is less than 6 meters (20 feet) tall.
- Woody vegetation includes tree saplings and trees that are stunted due to environmental conditions.

Forested (FO):

- This riparian class has woody vegetation that is greater than 6 meters (20 feet) tall.

Emergent (EM):

 Riparian areas that have erect, rooted herbaceous vegetation during most of the growing season.

References

- Cowardin, L. M., V. Carter, F. C. Golet, and E. T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U.S. Fish and Wildlife Service, Washington, D.C. FWS/OBS-79/31.
- FGDC Wetlands Subcommittee. 2009. Wetlands Mapping Standard. U.S. Geological Survey, Reston, Virginia.
- U.S. Fish and Wildlife Services. 2009. A system for mapping riparian areas in the western United States. Division of Habitat and Resource Conservation, Branch of Resource and Mapping Support, Arlington, Virginia.

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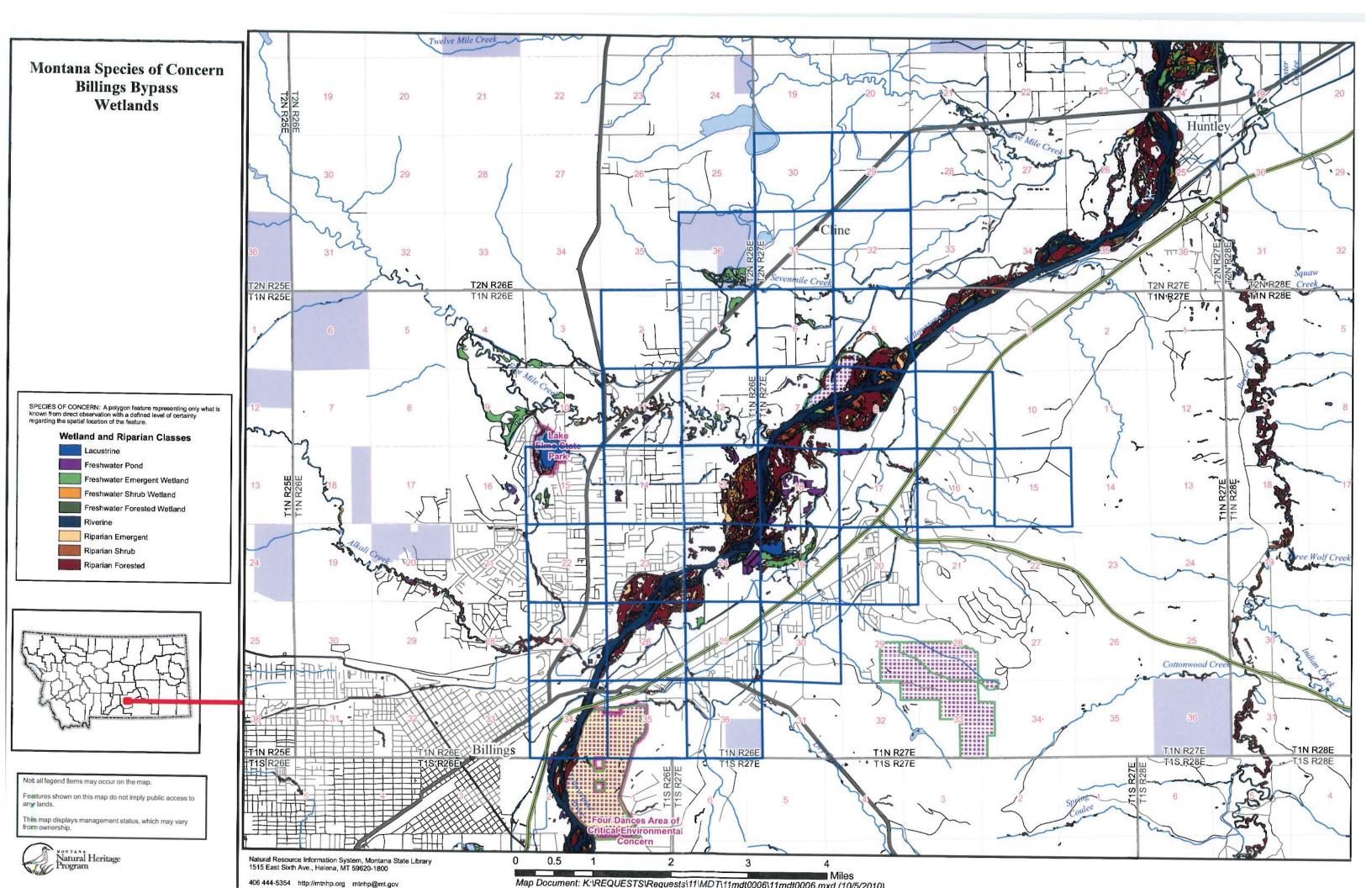
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data request Page 1 of 2

From: Lee Stragis

Sent: Thursday, June 02, 2011 8:34 AM

To: 'MTNHP'

Subject: RE: data request

Thank you Martin!

Licia (Lee) A. Stragis

Senior Biologist

David Evans and Associates, Inc

Spokane, WA 509-232-8709

From: Miller, Martin [mailto:martinm@mt.gov] On Behalf Of MTNHP

Sent: Thursday, June 02, 2011 8:29 AM

To: Lee Stragis

Subject: RE: data request

Jesse,

The attached zip file contains a personal geodatabase with a layer for Montana animal species of concern (SOC), and a layer for ecological sites. There were no plant species of concern in the vicinity of the project. I used a one mile buffer around the Billings East quad in performing the query. Metadata (not available for sites) and explanatory material are included.

Please let me know if you have any questions.

Thanks,

Martin Miller (406) 444-3290 Data Assistant Montana Natural Heritage Program

From: Lee Stragis [mailto:Lxst@deainc.com] **Sent:** Wednesday, June 01, 2011 4:02 PM

To: MTNHP

Subject: RE: data request

HI Martin, attached is the signed data use acknowledgement. I made an address change. Thanks for your prompt attention.

Licia (Lee) A. Stragis

Senior Biologist

David Evans and Associates, Inc

Spokane, WA 509-232-8709

From: Miller, Martin [mailto:martinm@mt.gov] On Behalf Of MTNHP

Sent: Wednesday, June 01, 2011 2:47 PM

To: Lee Stragis

Subject: RE: data request

Hi, Mandy,

I can provide you with the information you have requested in a personal geodatabase. In order to do so, I'm required to obtain a signed data use acknowledgement.

A sample document is attached. Please read it and return a signed version to me. A copy with your scanned signature is fine, or fax it to me at 406-444-0266.

Let me know if you have any questions.

file://P:\MDOT0000-0019 - Billings\Planning\Resource Reports\BRR\Appendices\Appendix A\MTNHP dat... 9/15/2011

data request Page 2 of 2

Thanks,

Martin Miller (406) 444-3290 Data Assistant Montana Natural Heritage Program martinm@mt.gov

From: Lee Stragis [mailto:Lxst@deainc.com] **Sent:** Wednesday, June 01, 2011 11:24 AM

To: MTNHP

Subject: data request

Martin Miller or other NHP staff,

Good Morning,

I am currently working on an EIS project for the Montana Department of Transportation

and would like to request NHP GIS spatial data and element

occurrence sheets for plants and animals in the project area as well

as the Streamnet Data. An electronic format would be fine.

Here is the project information

Project name: Billings Bypass

MDT:NCPD 56 (55) Control Number 4199

TRS: Entire Billings East Quadrangle of Yellowstone County

Please feel free to call or email me with any questions or Concerns,

Thank you for your time,

Licia (Lee) A. Stragis
Senior Biologist
David Evans and Associates, Inc
Spokane, WA
509-232-8709



United States Department of the Interior Fish and Wildlife Service

Ecological Services Montana Field Office 585 Shepard Way Helena, Montana 59601-6287



Phone: (406) 449-5225 Fax: (406) 449-5339

M.17 FHWA (I)

July 26, 2012

Bill Semmens Montana Department of Transportation 2701 Prospect Avenue PO Box 201001 Helena, MT 59620-1001

Dear Mr. Semmens:

This is in response to your June 28, 2012 request from the Montana Department of Transportation (Department) for concurrence with your effects determinations on federally listed species affected by the proposed Billings Bypass (NCPD 56(55)) project in Yellowstone County, Montana. The purpose of this project is to improve access, connectivity, and mobility between I-90 and Old Highway 312 in the eastern area of Billings, Montana through construction of a new arterial roadway and a new bridge across the Yellowstone River. This letter addresses only project-related effects to listed species that may occur in the project vicinity in accordance with the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 et seq.), and does not address the overall environmental acceptability of the proposed actions.

We have reviewed the biological assessment and amended biological assessment for the proposed project and concur with your determination that the project is not likely to adversely affect whooping crane (*Grus americana*), and acknowledge your determination that the proposed project would have no effect on the black-footed ferret (*Mustela nigripes*). We also acknowledge your determinations that the proposed action is not likely to jeopardize the existence of the greater sage-grouse (*Centrocercus urophasianus*) and Sprague's pipit (*Anthus spragueii*), which are candidate species. We base our concurrences on the information displayed in the biological assessment, amended biological assessment, and biological resource report.

This concludes informal consultation pursuant to regulations 50 CFR 402.13 implementing the Act. This project should be re-analyzed if new information reveals effects of the action that

may affect federally-listed species or critical habitat, or if the project is modified in a manner that causes an effect not considered in this consultation.

We appreciate the Department's efforts to conserve fish and wildlife resources. If you have questions about this letter, please contact Mike McGrath at (406) 449-5225, extension 201, or at mike-mcgrath@fws.gov.

Sincerely,

R. Mark Wilson Field Supervisor

Copies to:

Bonnie Gundrum, Montana Department of Transportation, Helena, MT Brian Hasselbach, Federal Highways Administration, Helena, MT

BILLINGS BYPASS

Biological Resources Report November 2011

APPENDIX B PHOTOGRAPHS



Figure 1. Johnson Lane Option 2 alignment, view north, wetland and gravel pit.



Figure 2.Johnson Lane Option 2 alignment, view west from compost facility to gravel pit.



Figure 3. Johnson Lane Option 2 alignment, view west from pond/wetland to gravel pit.



Figure 4. Johnson Lane Option 1 alignment view east, south of Coulson Road.



Figure 5. Johnson Lane Option 1 alignment, view east, south of Coulson Road toward Coulson ditch.



Figure 6. Muskrat in irrigation canal within Johnson Lane Option 1 alignment south of Coulson Road.



Figure 7. Johnson Lane alignments, view south toward railroad.



Figure 8. Johnson Lane alignments, view south across agriculture grain fields.



Figure 9. Bald Eagle communal roost snag, south of Yellowstone River, view north, north of Johnson Lane Option 1 alignment.



Figure 10. Central bridge alignment view northwest across Yellowstone channel.



Figure 11. Yellowstone River riparian area, mature large diameter cottonwood.



Figure 12. Wildlife tracks on Yellowstone River channel.



Figure 13. Yellowstone River crossing, view west. Bluff with sandstone cliffs.



Figure 14. Yellowstone River crossing, view south from Five Mile Road alignment.



Figure 15. Sage steppe habitat, in the area of the mouth of Five Mile Creek, outside of alignment corridor, in between alignments. View northeast.



Figure 16. Five Mile Road alignment, view north from Yellowstone River bluff.



Figure 17. Five Mile Road alignment view north, north of Dover Road toward Hwy 312.



Figure 18. Mary Street Option 1 alignment, Yellowstone River crossing, view east.



Figure 19. Mary Street Option 1 alignment, view east.



Figure 20. Mary Street Option 1 alignment, view west.



Figure 21. Mary Street Option 1 alignment, cliffs of Five Mile Creek, view southeast.



Figure 22. Mary Street Option 2 alignment, view east across Five Mile Creek, sandstone cliffs.



Figure 23. Mary Street Option 2 alignment, view southwest across Five Mile Creek from bluff.



Figure 24. Mary Street intersection alignment, view east.



Figure 25. Wetland AC, view north.



Figure 26. Wetland AD, view southeast.



Figure 27. Wetland AF, view north.



Figure 28. Wetland AG, view south, active channel.



Figure 29. Wetland AG, view north, active channel.



Figure 30. Wetland AH, view east.



Figure 31. Wetland AI, view west.



Figure 32. Wetland AK, view west.



Figure 33. Wetland C, view north.



Figure 34. Wetland D, view north.



Figure 35. Wetland D9, view north.



Figure 36. Wetland E, view east.



Figure 37. Wetland F, view north.



Figure 38. Wetland I, view northeast.



Figure 39. Wetland J, view west.



Figure 40. Wetland L2, view west.



Figure 41. Wetland L4, view northwest.



Figure 42. Wetland M, view east.

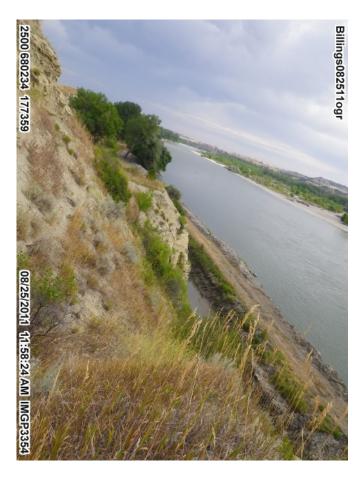


Figure 43. Wetland O, view east, overhead.



Figure 44. Wetland P, view south.



Figure 45. Wetland R, view east.



Figure 46. Wetland S, view east.



Figure 47. Wetland T, view northeast, representative vegetation, one of three intersection locations.



Figure 48. Wetland W, view south.



Figure 49. Wetland Y, view south.

BILLINGS BYPASS

Biological Resources Report
November 2011

APPENDIX C SPECIES LIST

BILLINGS BYPASS VEGETATION

Dlant Species

Plant Species	
Common Name	Scientific Name
alfalfa	Medicago sativa
American bulrush	Scirpus americanus
American speedwell	Veronica americana
arumleaf arrowhead	Sagittaria cuneata
ash	Fraxinus latifolia
awl-fruited sedge	Carex stipata
balsam poplar	Populus basamifera
Baltic rush	Juncus balticus
barnyard grass	Echinochloa crusgalli
big sage	Artemesia tridentata
bittersweet	Solanum dulcamara
blue spruce	Picea pungens
bluebunch wheatgrass	Agropyron intermedium
bluebunch wheatgrass	Agropyron spicatum
boxelder	Acer negundo
broomcorn millet	Panicum miliceum
bullrush species	Scirpus sp.
Canada thistle	Cirsium arvense
cattail	Typha latifolia
cheatgrass	Bromus tectorum
cinquefoil	Potentilla sp.
clasping peppergrass	Lepidium perfoliatum
common dogbane	Apocynum cannubinum
common horsetail	Equisetem arvense
common hound's-tongue	Cynoglossum officianale
common rabbit-brush	Chrysothamnus nauseosus
common spikerush	Eleocharis palustris
common sunflower	Helianthus annuus
common timothy	Phleum pratense
Common touch-me-not	Impatiens noli-tangere
coyote williw	Salix exigua
crack willow	Salix fragilis
crested wheat-grass	Agropyron cristatum
cultivated wheat	Triticum aestivum
curly dock	Rumex crispus
curly-cup gumweed	Grindelia squarrosa
dagger-leaf rush	Juncus ensifolius
dandelion	Taraxacum sp.
erect knotweed	Polygonum erecta
field bindweed	Convolulus arvensis
field mint	Mentha arvensis
field pennycress	Thlaspi arvense
fowl bluegrass	Poa palustris
goldenweed	Haplopapus sp.
goosegrass	Eleusine indica
green bristlebrush	Setaria verticillata
hairgrass dropseed	Sporobolius airoides
-	Solanum sarrachoides
hairy nightshade	
hardstem bullrush	Scirpus acutus

BILLINGS BYPASS VEGETATION

Common Name	Scientific Name
horseweed	Conyza canadensis
Idaho fescue	Festuca idahoensis
indian ricegrass	Oryzopsis hymenoides
Junegrass	Koeleria macrantha
Kentucky bluegrass	Poa pratensis
lambsquarters	Chenopodium alba
leafy spurge	Euphorbia esula
mariposa	Calcochortus sp.
meadow fescue	Festuca pratensis
meadow foxtail	Alopecurus pratensis
meadow goldenrod	Solidago canadensis
medusahead rye	Elymus caput-medusae
monkey flower	Mimulus guttatus
mullein	Verbascum thapsus
Nebraska sedge	Carex nebrascensis
needle-and-thread grass	Stipa comata
orchard grass	Dactylis glomerata
ornamental plum	Prunus sp. var
peppermint	menta peperita
Plains cottonwood	Populus deltoides
pondweed	Potamogeton sp.
prairie sandgrass	Calamovilfa longifolia
quackgrass	Agropyron repens
rabbitfootgrass	Polypogon mospeliensis
ragweed	Ambrosia sp.
ragwort	Senecio sp.
red fescue	Festuca rubra
red-osier dogwood	Cornus sericea
redtop	Agrostis alba
Reed canarygrass	Phalaris arundinacea
Rocky Mountain beeplant	Cleome serrulata
Rocky Mountain juniper	Juniperus scopulorum
rough fescue	Festuca scabrella
Russian knapweed	Centaurea repens
Russian olive	Elaeagnus angustifolia
saltcedar	Tamarix parviflora
saltgrass	Distichlis spicata
saltmeadow rush	Juncus geardii
sandwort	Arenaria sp
scotch thistle	Onopordum acanthium
sedges	Carex sp.
sheep sorrel	Rumex acetosa
showy milkweed	Asclepias speciosa
Siberian elm	Ulmus pumila
silver buffaloberry	Shepherdia argentia
six-weeks fescue	Vulpia octoflora
slender rush	Juncus tenuis
slim-leaf goosesfoot	Chenopodium leptophylum
small-fruited bulrush	Scirpus microcarpus
smooth brome	Bromus inermis

BILLINGS BYPASS VEGETATION

Common Name	Scientific Name
smooth scouring rush	Equisetum laevigatum
smooth sumac	Rhus trilobata
soft brome	Bromus mollis
soft rush	Juncus effusus
sowthistle	Sonchus arvensis
spearmint	Mentha spicata
squirreltail grass	Sitanion hystrix
tarragon	Artemesia dracunculus
teasel	Dipsacus sylvestris
three-square bulrush	Scirpus pungens
Torry's rush	Juncus torreyi
tufted hairgrass	Deschampsia cespitosa
tumblemustard	Sisymbrium altissimum
tumbleweed	Salsola kali
water sedge	Carex aquatilis
watercress	Rorippa nasturtium-aquaticum
wavy-leaved thistle	Cirsium undulatum
Western fescue	Festuca occidentalis
western snowberry	Symphoricarpos occidentalis
western wheatgrass	Agropyron smithii
white clover	Trifolium repens
white sweetclover	Melilotus alba
whitetop	Cadaria draba
wild licorice	Glycyrrhiza lepidata
willow	Salix sp.
willow-herb	Epilobium sp.
witch grass	Panicum capillare
wooly sedge	Carex lanuginosa
wormwood	Artemesia absinthium
yarrow	Achilea millefolium
yellow salsify	Tragopyron dubius
yellow sweetclover	Melilotus officialis
yucca	Yucca glauca
yuccu	racca giauca

Bird Species

American goldfinch American kestrel American robin Falco sparverius American robin Falco sparverius Froject-wide American robin Furdus migratorius Froject-wide Bald eagle ¹ Haliaeetus leucocephalus Barn swallow Hirundo rustica Barn swallow Hirundo rustica Belted kingfisher Belted kingfisher Black-billed magpie² Pica hudsonia Broject-wide Brewer's blackbird Euphagus cyanocephalus Brewer's blackbird Euphagus cyanocephalus Project-wide Brewer's blackbird Canada goose Branta candensis Water Cliff swallow Hirundo pyrrhonota Upland Common nighthawk Corvus corax Project-wide Common yellowthroat Dark-eyed junco Junco hyemalis Bastern kingbird Fyrannus tyrannus Upland European starling² Sturnus vulgaris Flycatcher Golden eagle Gray catbird Dumetella carolinensis Upland Great blue heron¹ Ardea herodias Wetlands Great horned owl Bubo virginianus Project-wide Great plowlegs Tringa melanoleuca Water Hairy woodpecker Picoides villosus Riparian House Rinch Crarpodacus mexicanus Project-wide Killdeer Charadrius vociferus Mallard Anas platyrhynchos Mallard Marsh Wren Mountain bluebird Sialia currucoides Upland Mountain chickadee Pocile gambeli Upland Project-wide Riparian Northern harrier Circus cyaneus Upland Red-winged blackbird Agelaius phoeniceus Water	Bird Species		
American kestrel Falco sparverius Project-wide American robin Turdus migratorius Project-wide Bald eagle ¹ Haliaeetus leucocephalus Water Belted kingfisher Ceryle alcyon Water Black-billed magpie² Pica hudsonia Project-wide Black-capped chickadee Parus atricapillus Riparian Brewer's blackbird Euphagus cyanocephalus Project-wide Canada goose Branta candensis Water Cliff swallow Hirundo pyrrhonota Upland Common nighthawk Chordeiles minor Upland Common raven Corvus corax Project-wide Common yellowthroat Geothiypis trichas water Dark-eyed junco Junco hyemalis Riparian Double-crested cormorant Eastern kingbird Tyrannus tyrannus Upland European starling² Sturnus vulgaris Project-wide Giaqu catbird Dumetella carolinensis Upland Gray catbird Dumetella carolinensis Upland Graet blue heron¹ Ardea herodias Wetlands Great horned owl Bubo virginianus Project-wide Hairy woodpecker Picoides villosus Riparian House kinch Carpodacus mexicanus Project-wide House wren Troglodytes aedon project -wide Killdeer Charadrius vociferus Upland Mallard Anas platyrhynchos Water Marsh Wren Cistothorus palustris Water Mountain bluebird Sialia currucoides Upland Mountain chickadee Pocile gambeli Upland Northern flicker Colaptes auratus Riparian Northern harrier Circus cyaneus Upland Northern harrier Circus cyaneus Upland Project-wide Pine siskin Carduelis pinus Upland	Common Name	Scientific Name	Habitats
American robin Turdus migratorius Project-wide Bald eagle ¹ Haliaeetus leucocephalus Barn swallow Hirundo rustica Belted kingfisher Belted kingfisher Black-billed magpie² Pica hudsonia Black-capped chickadee Parus atricapillus Riparian Brewer's blackbird Euphagus cyanocephalus Project-wide Black-capped chickadee Branta candensis Water Canada goose Branta candensis Water Cliff swallow Hirundo pyrrhonota Upland Common nighthawk Chordeiles minor Upland Common raven Corvus corax Project-wide Common yellowthroat Geothlypis trichas water Dark-eyed junco Junco hyemalis Riparian Double-crested cormorant Phalacrocorax auritus Water Eastern kingbird Tyrannus tyrannus Upland European starling² Sturnus vulgaris Project-wide Flycatcher Golden eagle Aquila chrysaetos Project wide Gray catbird Dumetella carolinensis Upland Great blue heron¹ Ardea herodias Wetlands Great horned owl Bubo viriginianus Project-wide Greater yellowlegs Tringa melanoleuca Water Gull Larus spp. Water Hairy woodpecker Picoides villosus Riparian House finch Carpodacus mexicanus Project-wide Nourten Mallard Anas platyrhynchos Water Mallard Anas platyrhynchos Mater Mountain bluebird Sialia currucoides Upland Mountain chickadee Poecile gambeli Upland Mountain chickadee Poecile gambeli Upland Northern flicker Colaptes auratus Riparian Northern flicker Colaptes auratus Riparian Northern flicker Colaptes auratus Riparian Northern flicker Colaptes auratus Water Pied-billed grebe Podilymbus podiceps Water	American goldfinch	Carduelis tristis	Riparian
Bald eagle ¹ Haliaeetus leucocephalus Water Barn swallow Hirundo rustica Water Belted kingfisher Ceryle alcyon Water Black-billed magpie² Pica hudsonia Project-wide Black-capped chickadee Parus atricapillus Riparian Brewer's blackbird Euphagus cyanocephalus Project-wide Canada goose Branta candensis Water Cliff swallow Hirundo pyrrhonota Upland Common nighthawk Chordelies minor Upland Common raven Corvus corax Project-wide Common yellowthroat Geotfilypis trichas water Common yellowthroat Junco hyemalis Riparian Double-crested cormorant Phalacrocorax auritus Water Eastern kingbird Tyrannus tyrannus Upland European starling² Sturnus vulgaris Project-wide Flycatcher Empidonax sp. et al. Riparian Golden eagle Aquila chrysaetos Project wide Gray catbird Dumetella carolinensis Upland Great blue heron¹ Ardea herodias Wetlands Great ryellowlegs Tringa melanoleuca Water Gull Larus spp. Water Hairy woodpecker Picoides villosus Riparian House finch Carpodacus mexicanus Project-wide Mallard Anas platyrhynchos Water Mallard Anas platyrhynchos Water Marsh Wren Cistothorus palustris Water Mountain bluebird Sialia currucoides Upland Mourning dove Zenaida macroura Project-wide Northern flicker Colaptes auratus Riparian Northern harrier Circus cyaneus Upland Northern flicker Podilymbus podiceps Water	American kestrel	Falco sparverius	Project-wide
Barn swallow Belted kingfisher Ceryle alcyon Water Black-billed magpie ² Pica hudsonia Black-capped chickadee Parus atricapillus Riparian Black-capped chickadee Parus atricapillus Riparian Brewer's blackbird Euphagus cyanocephalus Canada goose Branta candensis Water Cliff swallow Hirundo pyrrhonota Upland Common nighthawk Chordeiles minor Upland Common raven Corvus corax Project-wide Common yellowthroat Dark-eyed junco Junco hyemalis Riparian Double-crested cormorant Palacrocorax auritus Water Eastern kingbird Tyrannus tyrannus Upland European starling ² Sturnus vulgaris Project-wide Flycatcher Golden eagle Aquila chrysaetos Project wide Gray catbird Dumetella carolinensis Upland Great blue heron¹ Ardea herodias Great horned owl Bubo virginianus Project-wide Greater yellowlegs Tringa melanoleuca Water Gull Larus spp. Water Hairy woodpecker Picoides villosus House finch Carpodacus mexicanus Project-wide Mallard Anas platyrhynchos Water Marsh Wren Cistothorus palustris Water Mountain bluebird Sialia currucoides Northern flicker Colaptes auratus Riparian Northern harrier Circus cyaneus Upland Vater Pied-billed grebe Podilymbus podiceps Water	American robin	Turdus migratorius	Project-wide
Belted kingfisher	Bald eagle ¹	Haliaeetus leucocephalus	Water
Black-billed magpie ²	Barn swallow	Hirundo rustica	Water
Black-capped chickadee Parus atricapillus Riparian Brewer's blackbird Euphagus cyanocephalus Project-wide Canada goose Branta candensis Water Cliff swallow Hirundo pyrrhonota Upland Common nighthawk Chordeiles minor Upland Common raven Corvus corax Project-wide Common yellowthroat Geothlypis trichas water Dark-eyed junco Junco hyemalis Riparian Double-crested cormorant Phalacrocorax auritus Water Eastern kingbird Tyrannus tyrannus Upland European starling² Sturnus vulgaris Project-wide Flycatcher Empidonax sp. et al. Riparian Golden eagle Aquila chrysaetos Project wide Gray catbird Dumetella carolinensis Upland Great blue heron¹ Ardea herodias Wetlands Great owl Bubo virginianus Project-wide Greater yellowlegs Tringa melanoleuca Water Gull Larus spp. Water Hairy woodpecker Picoides villosus Riparian House finch Carpodacus mexicanus Project-wide Killdeer Charadrius vociferus Upland Mallard Anas platyrhynchos Water Mountain bluebird Sialia currucoides Upland Mountain chickadee Poecile gambeli Upland Mountain chickadee Poecile gambeli Upland Mourning dove Zenaida macroura Project-wide Northern flicker Colaptes auratus Riparian Northern harrier Circus cyaneus Upland Osprey Pandion haliaetus Water Pied-billed grebe Podilymbus podiceps Water	Belted kingfisher	Ceryle alcyon	Water
Brewer's blackbird	Black-billed magpie ²	Pica hudsonia	Project-wide
Canada goose Branta candensis Water Cliff swallow Hirundo pyrrhonota Upland Common nighthawk Chordeiles minor Upland Common raven Corvus corax Project-wide Common yellowthroat Geothlypis trichas water Dark-eyed junco Junco hyemalis Riparian Double-crested cormorant Phalacrocorax auritus Water Eastern kingbird Tyrannus tyrannus Upland European starling ² Sturnus vulgaris Project-wide Flycatcher Empidonax sp. et al. Riparian Golden eagle Aquila chrysaetos Project wide Gray catbird Dumetella carolinensis Upland Great blue heron ¹ Ardea herodias Wetlands Great horned owl Bubo virginianus Project-wide Greater yellowlegs Tringa melanoleuca Water Gull Larus spp. Water Hairy woodpecker Picoides villosus Riparian House finch Carpodacus mexicanus Project-wide House wren Troglodytes aedon project -wide Killdeer Charadrius vociferus Upland Mallard Anas platyrhynchos Water Marsh Wren Cistothorus palustris Water Mountain bluebird Sialia currucoides Mountain chickadee Poecile gambeli Upland Mourning dove Zenaida macroura Project-wide Northern harrier Circus cyaneus Upland Osprey Pandion haliaetus Water Pine siskin Carduelis pinus Upland	Black-capped chickadee	Parus atricapillus	Riparian
Cliff swallow Common nighthawk Chordeiles minor Common raven Corvus corax Project-wide Common yellowthroat Dark-eyed junco Double-crested cormorant Eastern kingbird European starling² Sturnus vulgaris Flycatcher Gray catbird Great blue heron¹ Great blue heron¹ Greater yellowlegs Tringa melanoleuca Gull Larus spp. Hairy woodpecker House finch Carpodacus mexicanus House finch Carpodacus mexicanus Mater Mater Mater Mater Mater Mater Mater Mater Mallard Mansh Wren Mountain bluebird Northern harrier Circus cyaneus Valend Vater Valend Upland Upland Upland Upland Upland Upland Upland Upland Wettands Riparian Project-wide Water Water Water Water Water Upland Water Upland Water Upland Water Upland Mallard Anas platyrhynchos Mater Mountain bluebird Mourning dove Zenaida macroura Northern harrier Circus cyaneus Podilymbus podiceps Water Water Pied-billed grebe Podilymbus podiceps Water	Brewer's blackbird	Euphagus cyanocephalus	Project-wide
Common nighthawk Chordeiles minor Common raven Corvus corax Project-wide Common yellowthroat Dark-eyed junco Double-crested cormorant Eastern kingbird European starling² Sturnus vulgaris Flycatcher Golden eagle Gray catbird Great blue heron¹ Great blue heron¹ Greater yellowlegs Flycides inch Greater yellowlegs Flycioldes wire Hairy woodpecker House wren House wren House dren House dren Mallard Marsh Wren Marsh Wren Mountain chickadee Poecile gambeli Valer Common raven Conduct yellowle goe Froject-wide Corvus corax Project-wide Fiparian Vater	Canada goose	Branta candensis	Water
Common raven Corvus corax Common yellowthroat Dark-eyed junco Double-crested cormorant Eastern kingbird European starling² Flycatcher Gray catbird Great blue heron¹ Great horned owl Greater yellowlegs Grater yellowlegs Flying a melanoleuca Hairy woodpecker House wren House wren House wren House wren Marsh Wren Marsh Wren Mountain bluebird Mourning dove Serve tan Dark-eyed junco Junco hyemalis Water Riparian Riparian Upland Riparian Riparian Riparian Riparian Water Riparian Water Upland Water Upland Water Upland Water Water Water Water Water Upland Water	Cliff swallow	Hirundo pyrrhonota	Upland
Common yellowthroat Geothlypis trichas water Dark-eyed junco Junco hyemalis Riparian Double-crested cormorant Phalacrocorax auritus Water Eastern kingbird Tyrannus tyrannus Upland European starling² Sturnus vulgaris Project-wide Flycatcher Empidonax sp. et al. Riparian Golden eagle Aquila chrysaetos Project wide Gray catbird Dumetella carolinensis Upland Great blue heron¹ Ardea herodias Wetlands Great horned owl Bubo virginianus Project-wide Gray call Larus spp. Water Gull Larus spp. Water Hairy woodpecker Picoides villosus Riparian House finch Carpodacus mexicanus Project-wide Killdeer Charadrius vociferus Upland Mallard Anas platyrhynchos Water Marsh Wren Cistothorus palustris Water Mountain bluebird Sialia currucoides Upland Mountain chickadee Poecile gambeli Upland Mountain chickadee Poecile gambeli Upland Mourning dove Zenaida macroura Project-wide Northern flicker Colaptes auratus Riparian Northern harrier Circus cyaneus Upland Osprey Pandion haliaetus Water Pied-billed grebe Podilymbus podiceps Water	Common nighthawk	Chordeiles minor	Upland
Dark-eyed junco Dunco hyemalis Double-crested cormorant Phalacrocorax auritus Eastern kingbird Tyrannus tyrannus Upland European starling² Sturnus vulgaris Project-wide Flycatcher Empidonax sp. et al. Golden eagle Aquila chrysaetos Project wide Gray catbird Dumetella carolinensis Upland Great blue heron¹ Ardea herodias Wetlands Great horned owl Bubo virginianus Project-wide Grader yellowlegs Tringa melanoleuca Water Gull Larus spp. Water Hairy woodpecker Picoides villosus Riparian House finch Carpodacus mexicanus Project-wide Killdeer Charadrius vociferus Upland Mallard Anas platyrhynchos Water Marsh Wren Cistothorus palustris Water Mountain bluebird Sialia currucoides Northern flicker Colaptes auratus Northern harrier Circus cyaneus Vupland Vulend Vater	Common raven	Corvus corax	Project-wide
Double-crested cormorant Phalacrocorax auritus Water Eastern kingbird Tyrannus tyrannus Upland European starling ² Sturnus vulgaris Project-wide Flycatcher Empidonax sp. et al. Riparian Golden eagle Aquila chrysaetos Project wide Gray catbird Dumetella carolinensis Upland Great blue heron ¹ Ardea herodias Wetlands Great horned owl Bubo virginianus Project-wide Greater yellowlegs Tringa melanoleuca Water Gull Larus spp. Water Hairy woodpecker Picoides villosus Riparian House finch Carpodacus mexicanus Project-wide House wren Troglodytes aedon project -wide Killdeer Charadrius vociferus Upland Mallard Anas platyrhynchos Water Marsh Wren Cistothorus palustris Water Mountain bluebird Sialia currucoides Upland Mountain chickadee Poecile gambeli Upland Mourning dove Zenaida macroura Project-wide Northern flicker Colaptes auratus Riparian Northern harrier Circus cyaneus Upland Osprey Pandion haliaetus Water Pied-billed grebe Podilymbus podiceps Water	Common yellowthroat	Geothlypis trichas	water
Eastern kingbird Tyrannus tyrannus Upland European starling² Sturnus vulgaris Project-wide Flycatcher Empidonax sp. et al. Riparian Golden eagle Aquila chrysaetos Project wide Gray catbird Dumetella carolinensis Upland Great blue heron¹ Ardea herodias Wetlands Great horned owl Bubo virginianus Project-wide Greater yellowlegs Tringa melanoleuca Water Gull Larus spp. Water Hairy woodpecker Picoides villosus Riparian House finch Carpodacus mexicanus Project-wide Killdeer Charadrius vociferus Upland Mallard Anas platyrhynchos Water Marsh Wren Cistothorus palustris Water Mountain bluebird Sialia currucoides Upland Mountain chickadee Poecile gambeli Upland Mourning dove Zenaida macroura Project-wide Northern flicker Colaptes auratus Riparian Northern harrier Circus cyaneus Upland Osprey Pandion haliaetus Water Pied-billed grebe Podilymbus podiceps Water	Dark-eyed junco	Junco hyemalis	Riparian
European starling ² Sturnus vulgaris Project-wide Flycatcher Empidonax sp. et al. Riparian Golden eagle Aquila chrysaetos Project wide Gray catbird Dumetella carolinensis Upland Great blue heron ¹ Ardea herodias Wetlands Great horned owl Bubo virginianus Project-wide Greater yellowlegs Tringa melanoleuca Water Gull Larus spp. Water Hairy woodpecker Picoides villosus Riparian House finch Carpodacus mexicanus Project-wide Killdeer Charadrius vociferus Upland Mallard Anas platyrhynchos Water Marsh Wren Cistothorus palustris Water Mountain bluebird Sialia currucoides Upland Mourning dove Zenaida macroura Project-wide Northern flicker Colaptes auratus Riparian Northern harrier Circus cyaneus Upland Osprey Pandion haliaetus Water Pied-billed grebe Podilymbus podiceps Water Pine siskin Carduelis pinus Upland	Double-crested cormorant	Phalacrocorax auritus	Water
Flycatcher Golden eagle Aquila chrysaetos Project wide Gray catbird Dumetella carolinensis Upland Great blue heron¹ Ardea herodias Wetlands Great horned owl Bubo virginianus Project-wide Greater yellowlegs Tringa melanoleuca Water Gull Larus spp. Water Hairy woodpecker Picoides villosus Riparian House finch Carpodacus mexicanus Project-wide Killdeer Charadrius vociferus Upland Mallard Anas platyrhynchos Water Marsh Wren Cistothorus palustris Mountain bluebird Mountain chickadee Poecile gambeli Northern flicker Colaptes auratus Northern harrier Circus cyaneus Vupland Water Pine siskin Carduelis pinus Upland Riparian Riparian Riparian Riparian Riparian Vupland Water Water Water Water Water Vupland Water Water Water Vupland Water Water Water Vupland Water Water Water Vupland Water Water Vupland Water Water Water Vupland Water Vupland Water Vupland	Eastern kingbird	Tyrannus tyrannus	Upland
Golden eagle Gray catbird Dumetella carolinensis Upland Great blue heron¹ Great horned owl Great horned owl Great yellowlegs Great pellowlegs Tringa melanoleuca Water Gull Larus spp. Water Hairy woodpecker House finch Carpodacus mexicanus Mallard Mallard Marsh Wren Marsh Wren Mountain bluebird Mountain chickadee Northern flicker Colaptes auratus Nater Northern harrier Circus cyaneus Project wide Water Wetlands Water	European starling ²	Sturnus vulgaris	Project-wide
Gray catbird Dumetella carolinensis Upland Great blue heron¹ Ardea herodias Wetlands Great horned owl Bubo virginianus Project-wide Greater yellowlegs Tringa melanoleuca Water Gull Larus spp. Water Hairy woodpecker Picoides villosus Riparian House finch Carpodacus mexicanus Project-wide House wren Troglodytes aedon project -wide Killdeer Charadrius vociferus Upland Mallard Anas platyrhynchos Water Marsh Wren Cistothorus palustris Mater Mountain bluebird Sialia currucoides Upland Mountain chickadee Poecile gambeli Upland Mourning dove Zenaida macroura Project-wide Northern flicker Colaptes auratus Riparian Northern harrier Circus cyaneus Upland Osprey Pandion haliaetus Water Pied-billed grebe Podilymbus podiceps Water	Flycatcher	Empidonax sp. et al.	Riparian
Great blue heron¹ Ardea herodias Wetlands Great horned owl Bubo virginianus Project-wide Greater yellowlegs Tringa melanoleuca Water Gull Larus spp. Water Hairy woodpecker Picoides villosus Riparian House finch Carpodacus mexicanus Project-wide House wren Troglodytes aedon project -wide Killdeer Charadrius vociferus Upland Mallard Anas platyrhynchos Water Marsh Wren Cistothorus palustris Water Mountain bluebird Sialia currucoides Upland Mountain chickadee Poecile gambeli Upland Mourning dove Zenaida macroura Project-wide Northern flicker Colaptes auratus Riparian Northern harrier Circus cyaneus Upland Osprey Pandion haliaetus Water Pied-billed grebe Podilymbus podiceps Water Pine siskin Carduelis pinus Upland	Golden eagle	Aquila chrysaetos	Project wide
Great horned owl Bubo virginianus Project-wide Greater yellowlegs Tringa melanoleuca Water Gull Larus spp. Water Hairy woodpecker Picoides villosus Riparian House finch Carpodacus mexicanus Project-wide House wren Troglodytes aedon project -wide Killdeer Charadrius vociferus Upland Mallard Anas platyrhynchos Water Marsh Wren Cistothorus palustris Water Mountain bluebird Sialia currucoides Upland Mountain chickadee Poecile gambeli Upland Mourning dove Zenaida macroura Project-wide Northern flicker Colaptes auratus Riparian Northern harrier Circus cyaneus Upland Osprey Pandion haliaetus Water Pied-billed grebe Podilymbus podiceps Water Pine siskin Carduelis pinus Upland	Gray catbird	Dumetella carolinensis	Upland
Greater yellowlegs	Great blue heron ¹	Ardea herodias	Wetlands
Gull Larus spp. Water Hairy woodpecker Picoides villosus Riparian House finch Carpodacus mexicanus Project-wide House wren Troglodytes aedon project -wide Killdeer Charadrius vociferus Upland Mallard Anas platyrhynchos Water Marsh Wren Cistothorus palustris Water Mountain bluebird Sialia currucoides Upland Mountain chickadee Poecile gambeli Upland Mourning dove Zenaida macroura Project-wide Northern flicker Colaptes auratus Riparian Northern harrier Circus cyaneus Upland Osprey Pandion haliaetus Water Pied-billed grebe Podilymbus podiceps Water Pine siskin Carduelis pinus Upland	Great horned owl	Bubo virginianus	Project-wide
Hairy woodpecker Picoides villosus Riparian House finch Carpodacus mexicanus Project-wide House wren Troglodytes aedon project -wide Killdeer Charadrius vociferus Upland Mallard Anas platyrhynchos Water Marsh Wren Cistothorus palustris Water Mountain bluebird Sialia currucoides Upland Mountain chickadee Poecile gambeli Upland Mourning dove Zenaida macroura Project-wide Northern flicker Colaptes auratus Riparian Northern harrier Circus cyaneus Upland Osprey Pandion haliaetus Water Pied-billed grebe Podilymbus podiceps Water Pine siskin Carduelis pinus Upland	Greater yellowlegs	Tringa melanoleuca	Water
House finch Carpodacus mexicanus Project-wide House wren Troglodytes aedon Killdeer Charadrius vociferus Upland Mallard Anas platyrhynchos Water Marsh Wren Cistothorus palustris Mountain bluebird Sialia currucoides Upland Mountain chickadee Poecile gambeli Upland Mourning dove Zenaida macroura Project-wide Northern flicker Colaptes auratus Riparian Northern harrier Circus cyaneus Upland Osprey Pandion haliaetus Water Pied-billed grebe Podilymbus podiceps Water Pine siskin Carduelis pinus Upland	Gull	Larus spp.	Water
House wren Troglodytes aedon project -wide Killdeer Charadrius vociferus Upland Mallard Anas platyrhynchos Water Marsh Wren Cistothorus palustris Water Mountain bluebird Sialia currucoides Upland Mountain chickadee Poecile gambeli Upland Mourning dove Zenaida macroura Project-wide Northern flicker Colaptes auratus Riparian Northern harrier Circus cyaneus Upland Osprey Pandion haliaetus Water Pied-billed grebe Podilymbus podiceps Water Pine siskin Carduelis pinus Upland	Hairy woodpecker	Picoides villosus	Riparian
Killdeer Charadrius vociferus Upland Mallard Anas platyrhynchos Water Marsh Wren Cistothorus palustris Water Mountain bluebird Sialia currucoides Upland Mountain chickadee Poecile gambeli Upland Mourning dove Zenaida macroura Project-wide Northern flicker Colaptes auratus Riparian Northern harrier Circus cyaneus Upland Osprey Pandion haliaetus Water Pied-billed grebe Podilymbus podiceps Water Pine siskin Carduelis pinus Upland	House finch	Carpodacus mexicanus	Project-wide
Mallard Anas platyrhynchos Water Marsh Wren Cistothorus palustris Mountain bluebird Sialia currucoides Upland Mountain chickadee Poecile gambeli Mourning dove Zenaida macroura Project-wide Northern flicker Colaptes auratus Northern harrier Circus cyaneus Upland Osprey Pandion haliaetus Water Pied-billed grebe Podilymbus podiceps Water Pine siskin Carduelis pinus Water	House wren	Troglodytes aedon	project -wide
Marsh Wren Cistothorus palustris Water Mountain bluebird Sialia currucoides Upland Mountain chickadee Poecile gambeli Upland Mourning dove Zenaida macroura Project-wide Northern flicker Colaptes auratus Riparian Northern harrier Circus cyaneus Upland Osprey Pandion haliaetus Water Pied-billed grebe Podilymbus podiceps Water Pine siskin Carduelis pinus Upland	Killdeer	Charadrius vociferus	Upland
Mountain bluebird Sialia currucoides Upland Mountain chickadee Poecile gambeli Upland Mourning dove Zenaida macroura Project-wide Northern flicker Colaptes auratus Riparian Northern harrier Circus cyaneus Upland Osprey Pandion haliaetus Water Pied-billed grebe Podilymbus podiceps Water Pine siskin Carduelis pinus Upland	Mallard	Anas platyrhynchos	Water
Mountain chickadee Poecile gambeli Upland Mourning dove Zenaida macroura Project-wide Northern flicker Colaptes auratus Riparian Northern harrier Circus cyaneus Upland Osprey Pandion haliaetus Water Pied-billed grebe Podilymbus podiceps Water Pine siskin Carduelis pinus Upland	Marsh Wren	Cistothorus palustris	Water
Mourning dove Zenaida macroura Project-wide Northern flicker Colaptes auratus Riparian Northern harrier Circus cyaneus Upland Osprey Pandion haliaetus Water Pied-billed grebe Podilymbus podiceps Water Pine siskin Carduelis pinus Upland	Mountain bluebird	Sialia currucoides	Upland
Northern flicker Colaptes auratus Riparian Circus cyaneus Upland Osprey Pandion haliaetus Water Pied-billed grebe Podilymbus podiceps Water Pine siskin Carduelis pinus Upland	Mountain chickadee	Poecile gambeli	Upland
Northern harrier Circus cyaneus Upland Osprey Pandion haliaetus Water Pied-billed grebe Podilymbus podiceps Water Pine siskin Carduelis pinus Upland	Mourning dove	Zenaida macroura	Project-wide
Osprey Pandion haliaetus Water Pied-billed grebe Podilymbus podiceps Water Pine siskin Carduelis pinus Upland	Northern flicker	Colaptes auratus	Riparian
Pied-billed grebe <i>Podilymbus podiceps Water</i> Pine siskin <i>Carduelis pinus Upland</i>	Northern harrier	Circus cyaneus	Upland
Pine siskin Carduelis pinus Upland	Osprey	Pandion haliaetus	Water
,	Pied-billed grebe	Podilymbus podiceps	Water
Red-winged blackbird Agelaius phoeniceus Water	Pine siskin	Carduelis pinus	Upland
	Red-winged blackbird	Agelaius phoeniceus	Water

Common Name	Scientific Name	Habitats
Red-tailed hawk	Buteo jamaicensis	Upland
Ring-necked pheasant ²	Phasianus colchicus	Project-wide
Rock dove ²	Columba livia	Project-wide
Sandhill crane	Grus canadensis	Water
Snow goose	Chen caerulescens	Water
Solitary sandpiper	Tringa solitaria	Water
Song sparrow	Melospiza melodia	Project-wide
Spotted sandpiper	Actitis macularia	Water
Spotted towhee	Pipilo maculatus	Riparian
Swan	Cygnus sp.	Water
Three-toed woodpecker	Picoides tridactylus	Riparian
Tree swallow	Tachycineta bicolor	Riparian
Turkey vulture	Cathartes aura	Project-wide
Vesper sparrow	Pooecetes gramineus	Upland
Warbler	Parulidae sp. et al.	Project-wide
Western grebe	Aechmophorus occidentalis	Water
Western meadowlark	Sturnella neglecta	Upland
Western wood-pewee	Contopus sordidulus	Upland
White-crowned sparrow	Zonotrichia leucophrys	Upland
Wild turkey ²	Meleagris gallopavo	Riparian
Winter wren	Troglodytes troglodytes	Riparian
Yellow-breasted chat	Icteria virens	Riparian
Yellow warbler	Dendroica petechia	Riparian

¹Montana species of concern

²Not protected by MBTA

Mammal Species

Common Name	Scientific Name	Habitats
American badger	Taxidea taxus	Upland
American beaver	Castor canadensis	Water
Black bear	Ursus americanus	Project-wide
Cottontail rabbit	Sylvilagus spp.	Project-wide
Coyote	Canis latrans	Project-wide
Fox squirrel	Sciurus niger	Riparian
Mountain lion	Felis concolor	River Corridor
Mule deer	Odocoileus hemionus	Upland
Muskrat	Ondatra zibethicus	Water
Northern pocket gopher	Thomomys talpoides	Upland
Northern river otter	Lutra canadensis	River Corridor
Raccoon	Procyon lotor	Project-wide
Red fox	Vulpes vulpes	River Corridor
Squirrel sp.	Sciurissp.	Project wide
Striped skunk	Mephitis mephitis	Project-wide
Whitetail deer	Odocoileus virginianus	Project-wide
Whitetail jackrabbit	Lepus townsendi	Upland

¹Montana species of concern

Reptile and Amphibian Species

Common Name	Scientific Name	Habitats
Common sagebrush lizard ¹	Sceloporus graciosus	Upland
Gopher snake	Pituophis catenifer	Upland
terrestrial garter snake	Thamnophis elegans	Project-wide
Woodhouse's toad	Bufo woodhousii	Project-wide
American bullfrog	Rana catesbeiana	Water
northern leopard frog	Rana pipiens	Water
Snapping turtle ¹	Chelydra serpentina	Water
Red-eared slider	Trachemys scripta	Water

¹Montana species of concern

Fish Species

Common Name	Scientific Name	Spawning Period	Five Mile Creek	Yellowstone
				River
Minnow family	Cyprinidae			
Common carp	Cyprinus carpio	May - July	Р	С
Longnose dace	Rhinichthys cataractae	late spring - early summer	С	С
Lake chub	Couesius plumbeus	May - June	С	-
Flathead chub	Platygobio gracilis	July	С	С
Emerald shiner	Notropis atherinoides	July - Aug	Р	С
Sand shiner	Notropis streamineus	May - Aug	С	С
Fathead minnow	Pimephales promelas	May - Aug	С	С
Western silvery minnow	Hybognathus argyritis	June - July	С	С
Suckers	Catostomidae			
River carpsucker	Carpiodes carpio	May - July	Р	С
Smallmouth buffalo	Ictiobus bubalus	May	Р	С
Shorthead redhorse	Moxostoma macrolepiodotum	April - May	С	С
White sucker	Catostomus commersoni	April - June	С	С
Mountain sucker	Catostomus platyrhynchus	June - July	С	С
Longnose sucker	Catostomus catostomus	April - early July	С	С
Catfish	Ictaluridae			
Stonecat	Nocturus falvus	June - Aug	С	С
Channel catfish	Ictalurus punctatus	May - July	Р	С
Black bullhead	Ameiurus melas	May - early July	Р	С
Cod	Gadidae			
Burbot	Lota lota	Dec - Feb	-	С
Sticklebacks	Gasterosteidae			
Brook stickleback	Culaea inconstans	May - June	С	С
Pike	Esocidae			
Tiger muskellunge	Esox masquinongy x lucius	Sterile hybrid	Р	С
Mooneye and Goldeye	Hiodontidae			
Goldeye	Hiodon alosoides	Late March - May	Р	С
Sunfish	Centrarchidae			
Largemouth bass	Micropterus salmoides	May - mid-July	Р	С
Smallmouth bass	Microperus dolumieui	May - June	Р	С
Black crappie	Pomoxis nigromaculatus	May - June	Р	С
Green sunfish	Lepomis cyanellus	May - midsummer	Р	С
Pumpkinseed	Lepomis gibbosus	late spring - early summer	Р	С
Bluegill	Lepomis macrochirus		Р	С
Perch	Percidae			
Walleye	Stizostedion vitreum	April	Р	С
Sauger	Stizostedion canadense	April - May	Р	С
Trout and Salmon	Salmonidae			
Yellowstone cutthroat	Oncorhynchus clarki bouvieri	spring - early summer	Р	Р
Rainbow trout	Oncorhynchus mykiss	April - July	Р	С
Brown trout	Salmo trutta	Oct - Dec	С	С
Mountain whitefish	Prosopium williamsoni	Oct - Nov	С	С

Source: MFWP 2011

¹Montana species of concern

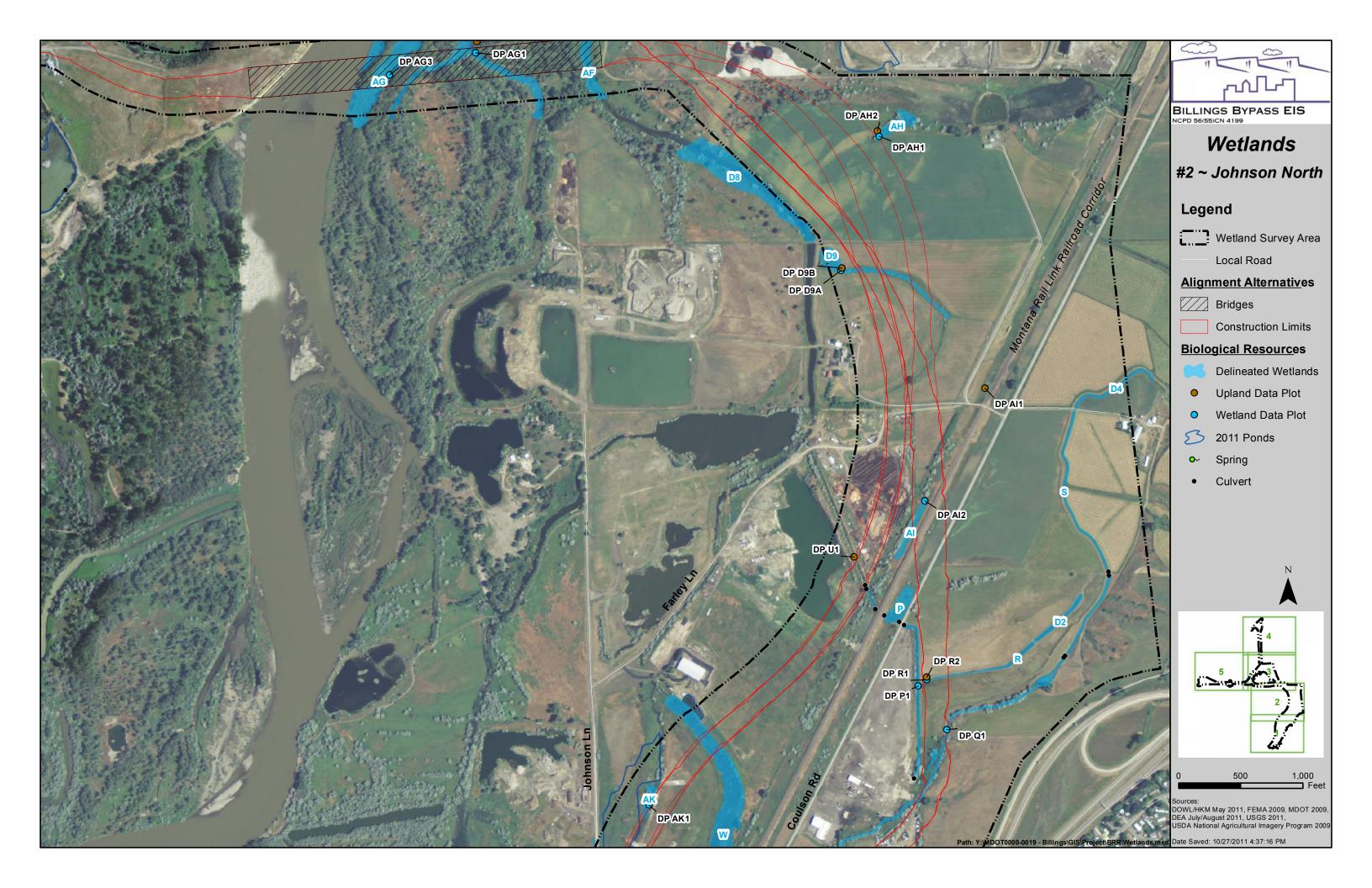
C = confirmed by Mfish surveys, P = possible, - = unknown

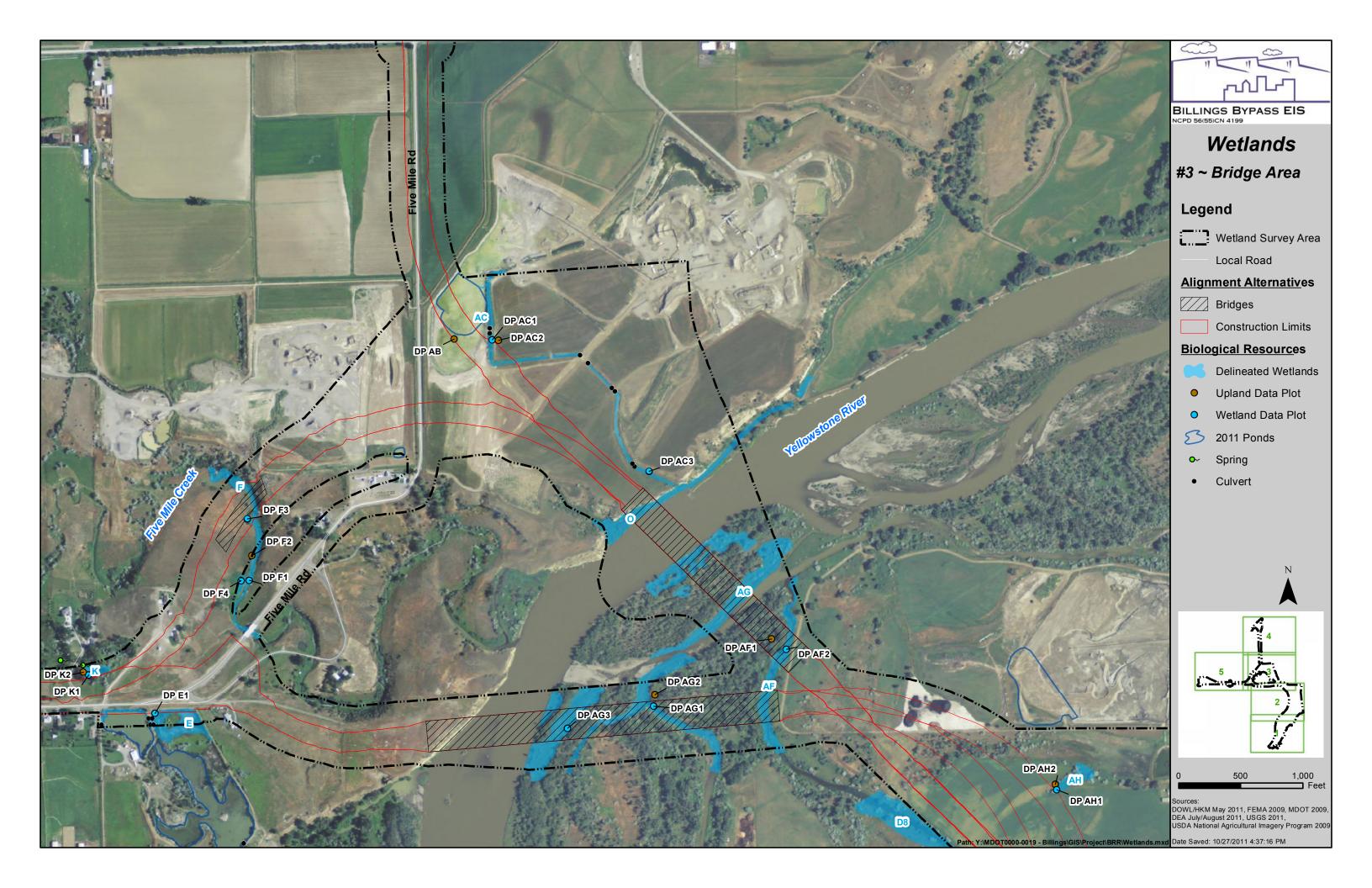
BILLINGS BYPASS

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APPENDIX D WETLANDS MAPS











BILLINGS BYPASS

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APPENDIX E WETLAND DELINEATION DATA FORMS and MDT WETLAND EVALUATION FORMS

Project/Site: Rillings Bypass	City/County: Ye	llaustone sampling	Date: 8/25 ///
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Investigator(s): L, STragis, G, Navol	_ Section, Lownship, Ra	inge: — / // // // /	Clara (0(); 🖎
Landform (hillslope, terface) etc.):			
Subregion (LRR): Lat:		Long:	Datum:
Soil Map Unit Name:	,	NWI classification:	PEIM
Are climatic / hydrologic conditions on the site typical for this time of	year? Yes No _	(If no, explain in Remarks.)	. ,
Are Vegetation, Soil, or Hydrology significant	ly disturbed? Are '	"Normal Circumstances" present?	Yes No
Are Vegetation, Soil, or Hydrology naturally p		eeded, explain any answers in Rema	
SUMMARY OF FINDINGS - Attach site map showing		ocations, transects, import	ant features, etc.
Hydrophytic Vegetation Present? Yes No	I- 41- 0		
Hydric Soil Present? Yes V No	10 tile outliploe	١/	
Wetland Hydrology Present? Yes V	i wimin a wellal		
Remarks: Canal w/ Cattagle roughs		Conpection	6AB/SPS
Remarks: Canal w/cattants raphs cobbtewaste on panks>fie	ids .	in liet	
VEGETATION – Use scientific names of plants.		// 1	<u> </u>
-	e Dominant Indicator	Dominance Test worksheet:	·····
Tree Stratum (Plot size:) % Cove	er Species? Status	Number of Dominant Species	
1,		That Are OBL, FACW, or FAC	4 (A)
2		(excluding FAC-):	
3		Total Number of Dominant	4 (B)
		Species Across All Strata:	(0)
Cabling/Check Stratum (Diet size:	_ = Total Cover .	Percent of Dominant Species That Are OBL, FACW, or FAC:	(A/B)
1. Popular doltadas 10	V FAC		100
2 Salix exitaus 10.	/. V FACW	Prevalence Index worksheet:	
3.		Total % Cover of:	
4.		OBL species x 1	
5		FACW species x 2	
_ <i>&</i> C	_ = Total Cover	FAC species x 3	
Herb Stratum (Plot size:) 1. Tubha latitalia cattait 80	VOBL	UPL species x 5	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Column Totals: (A)	
2 Sarpus doutrus h-s bullrush 25 3. Juneus Venuis Server rich> 3			
4. Solidago canadensis aptomical > 5		Prevalence Index = B/A = _	
		Hydrophytic Vegetation Indicat	
5			> Vegetation
7		2 - Dominance Test is >50%	
8.		3 - Prevalence Index is ≤3.0 ¹	•
9.		4 - Morphological Adaptations data in Remarks or on a s	s' (Provide supporting enarate sheet)
10.		Problematic Hydrophytic Veg	
	= Total Cover		
Woody Vine Stratum (Plot size:)		¹ Indicators of hydric soil and wetta be present, unless disturbed or pr	
1		Hydrophytic	<u> </u>
	= Total Cover	Vegetation	<u></u>
% Bare Ground in Herb Stratum		Present? Yes	No
Remarks:	. a l		
Remarks: Wildlife counidor R-W BB m. Dove, sp. Sandpiper, US Army Corps of Engineers	(0.1		·
also bangard	grass Pedrinoc	1000 contactor)	•
R-W RB m. Dove, sp. sandpipes,	isultrogs,	Spar 15	Plains – Version 2.0
US Army Corps of Engineers	promise and the second	Gleat	Tames Version A.V

~	^		•
•	. 1	41	
J.	v	ш	L.,

Sampling Point: AC.

Profile Des	cription: (Describe	to the dep	th needed to docu	ment the i	ndicator	or confirm	n the absence of indicators.)	
Depth	Matrix		Redo	x Feature	s			
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type ¹	Loc ²	Texture Rema	rks
0-3	254411	90	Gleu 13/N	10	(.	P 2_	siltuclar	·
2-8	2 E V 4//	70/.	2 4×56	720	\overline{C}	M	- O	edox
	-45 		3.0 / 5/2		<u></u>		Sandy Nag R	eaux
			Gley 1 3/N			11/		
l			• •					
		•						
			· · · · · · · · · · · · · · · · · · ·	-				
		· · · · · · · · · · · · · · · · · · ·	,					
							<u> </u>	
¹ Type: C=C	oncentration, D≂Dep	letion, RM=	Reduced Matrix, CS	S=Covered	or Coate	d Sand Gr	rains. ² Location: PL=Pore Linin	ig. M=Matrix.
	Indicators: (Applic						Indicators for Problematic Hyd	
Histoso				Sleyed Ma			1 cm Muck (A9) (LRR I, J)	
*********	pipedon (A2)			Redox (S5)			Coast Prairie Redox (A16) (LRR F. G. H)
4	istic (A3)		-	l Matrix (S			Dark Surface (S7) (LRR G)	,
	en Sulfide (A4)			Mucky Min			High Plains Depressions (F	
Stratifie	d Layers (A5) (LRR F	;)		Gleyed Ma			(LRR H outside of MLR	· ·
1 cm Mu	uck (A9) (LRR F, G, I	1)	Deplete	d Matrix (F	3)		Reduced Vertic (F18)	-
Deplete	d Below Dark Surface	e (A11)	Redox [Dark Surfa	ce (F6)		Red Parent Material (TF2)	
1	ark Surface (A12)			d Dark Su			Very Shallow Dark Surface ((TF12)
	fucky Mineral (S1)			Depression	. ,		Other (Explain in Remarks)	
1	Mucky Peat or Peat (· · ·	ins Depre	-	•	³ Indicators of hydrophytic vegeta	
5 cm·Mi	ucky Peat or Peat (S3) (LRR F)	(ML	RA 72 & 7	3 of LRR	H)	wetland hydrology must be p	
Dontaletica	Lavas (Chanas - A)						unless disturbed or problem	atic.
	Layer (if present):							
Type:	sobble 2"						.1/	
Depth (in	ches): <u> </u>						Hydric Soil Present? Yes	No
Remarks:								
HYDROLO	GY		, , , , , , , , , , , , , , , , , , , ,		***************************************		·	
	drology Indicators:							
1			.4 1 11 11 11 1					
	cators (minimum of or	ie requirea;				•	Secondary Indicators (minimur	m of two required)
Surface			Salt Crust				Surface Soil Cracks (B6)	
. /	iter Table (A2)		Aquatic Inv				Sparsely Vegetated Conc	ave Surface (B8)
Saturation	• •		Hydrogen \$				Drainage Patterns (B10)	
	arks (B1)		Dry-Season				Oxidized Rhizospheres on	Living Roots (C3)
	nt Deposits (B2)		Oxidized R	-	es on Livin	g Roots (
	oosits (B3)		(where n				Crayfish Burrows (C8)	
	it or Crust (B4)		Presence of				Saturation Visible on Aeria	al Imagery (C9)
· ·	osits (B5)		Thin Muck		•		Geomorphic Position (D2)	
Inundatio	on Visible on Aerial In	nagery (B7)	Other (Exp	lain in Ren	narks)		FAC-Neutral Test (D5)	
Water-St	lained Leaves (B9)						Frost-Heave Hummocks (I	D7) (LRR F)
Field Observ	vations:							7
Surface Water	er Present? Ye	s N	o Depth (inc	hes):) / /			
Water Table	Present? Ye	s <u>//</u> N	o Depth (inc	hes):	$P = \gamma$	_ [. 1	
Saturation Pr	esent? Ye	s 🗸 N	o Depth (inc	hes):	11	Wetla	nd Hydrology Present? Yes	No
(includes cap								
Describe Rec	corded Data (stream o	jauge, mon	itoring well, aerial p	hotos, pre	vious inspe	ections), if	available:	٦
							·	
Remarks:	. 0		1					
Hy	drogy from	pono	y .	_		$-\omega_{\alpha}$	ste material	
0	0911	Mes		DUMA	<u> </u>			

Project/Site: Rillings	Bupasa	С	ity/County: <u>Yel</u> l	lowstone	Sampling Date: 8 /25/11
Applicant/Owner: MGT	01		•	State: MT	Sampling Point: A6-2
Investigator(s): L. Stragi	s G Rain.	4 9	ection Township Ra	nge: 57 T 1/	J. Ra7 E
Landform (hillslope, terrace, etc.):	sy o Kanz	۷	ocal relief (concave.	convex none):	Slope (%):
Subregion (LRR):		L nt:	20001 101101 (00110-1-1)	Long:	Datum:
					ation: upland
Soil Map Unit Name:					` \
Are climatic / hydrologic conditions of				(if no, explain in Re	milains.)
Are Vegetation, Soil					resent? Yes No
Are Vegetation, Soil	, or Hydrology	naturally prob	lematic? (If ne	eeded, explain any answer	s in Remarks.)
SUMMARY OF FINDINGS -	· Attach site map	showing	sampling point l	ocations, transects,	important features, etc.
Hydrophytic Vegetation Present?	Yes 1	No V			· ,
Hydric Soil Present?	Yes	No 1/	Is the Sampled		No.
Wetland Hydrology Present?	Yes		within a Wetlar	na <i>r</i> res	
Remarks:					
					•
/	0				
	mal	<u> </u>			
VEGETATION - Use scient	ific names of pla	nts.			
			Dominant Indicator	Dominance Test works	
Tree Stratum (Plot size:			Species? Status	Number of Dominant Sp	
1				That Are OBL, FACW, of (excluding FAC-):	(A)
				Total Number of Domina Species Adross All Strat	
4		<u> </u>	T-4-1 O-11-2	1 '	
Sapling/Shrub Stratum (Plot size	·)		= Total Cover	Percent of Dominant Sp That Are OBL, FACW, of	
1.	\			1	
2.				Prevalence Index work	
3.					Multiply by;
4.				1 '	x 1 =
5.					x 2 =
			= Total Cover	1	x 3 =
Herb Stratum (Plot size:)		1/	FACU species	
1. AgropyRom CRIS	testim	20	L/ LAPL	UPL species	· ·
2		 .		Column Totals:	(A)(B)
3				Prevalence Index	= B/A =
4				Hydrophytic Vegetatio	n Indicators:
5				1 - Rapid Test for H	lydrophytic Vegetation
6				2 - Dominance Test	t is >50%
7				3 - Prevalence Inde	x is ≤3.0 ¹
8				4 - Morphological A	daptations1 (Provide supporting
9				1	or on a separate sheet)
10.			•	Problematic Hydrop	phytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size:	1	=	= Total Cover	¹ Indicators of hydric soil	and wetland hydrology must
1				be present, unless distu	rbed or problematic.
,				Hydrophytic	
2.	_		= Total Cover	Vegetation	N- V
% Bare Ground in Herb Stratum	30 W/EVUS	F		Present? Yes	SNo
Remarks:					
_	A .				
small fish in co	inul		.,		
US Army Corps of Engineers	• • •		÷		Great Plains – Version 2.0

S	n	1	i	
•3	v	1	1.	

Sampling Point: ACD

Profile Description: (Describe to the de			icor or oomin	iii tile abselice of	manuacoro.)
Depth Matrix (inches) Color (moist) %	Color (moist)	x Features %Typ	e¹ Loc²	Texture	Remarks
0-6 10 YR 3/3					T.O. T.O.
					
				· · · · · · · · · · · · · · · · · · ·	
					
· · · · · · · · · · · · · · · · · · ·				····	
Type: C=Concentration, D=Depletion, RN	M=Reduced Matrix. CS	=Covered or C	nated Sand G	rains ² l ocatio	on: PL=Pore Lining, M=Matrix.
lydric Soil Indicators: (Applicable to a	II LRRs, unless other	wise noted.)	, and gains o	***************************************	Problematic Hydric Soils ³ :
Histosol (A1)		leyed Matrix (S	4)		k (A9) (LRR I, J)
Histic Epipedon (A2)		edox (S5)	''		irie Redox (A16) (LRR F, G, H)
Black Histic (A3)		Matrix (S6)			ace (S7) (LRR G)
Hydrogen Sulfide (A4)		lucky Mineral (F1)	•	s Depressions (F16)
Stratified Layers (A5) (LRR F)		leyed Matrix (F			outside of MLRA 72 & 73)
1 cm Muck (A9) (LRR F, G, H)	Depleted				Vertic (F18)
Depleted Below Dark Surface (A11)		ark Surface (F	•	Red Parer	nt Material (TF2)
Thick Dark Surface (A12)		Dark Surface			ow Dark Surface (TF12)
Sandy Mucky Mineral (\$1)		epressions (F8			olain in Remarks)
2.5 cm Mucky Peat or Peat (S2) (LRR		ns Depression	- •		ydrophytic vegetation and
_ 5 cm Mucky Peat or Peat (S3) (LRR F) (MLR	RA 72 & 73 of L	RR H)	•	drology must be present,
				unless dist	urbed or problematic.
Restrictive Layer (if present):					
Tuno: 6 AVAILED 1					
Type: hard pan	- · · · · · · · ·				
Depth (inches): 6				Hydric Soil Pre	sent? Yes No
- 31				Hydric Soil Pre	sent? Yes No L
Depth (inches): 6"				Hydric Soil Pre	sent? Yes No
Depth (inches): 6 ³⁷		<u> </u>	······	Hydric Soil Pre	sent? Yes No
Depth (inches): 6 ⁷ / Remarks:				Hydric Soil Pre	sent? Yes No
Depth (inches): 6 // lemarks:				Hydric Soil Pre	sent? Yes No L
Depth (inches): 6 // Remarks: /DROLOGY /etland Hydrology Indicators:					
Depth (inches): 6 // lemarks: /DROLOGY /etland Hydrology Indicators: rimary Indicators (minimum of one require				Secondary I	ndicators (minimum of two required
Depth (inches): 6 // Itemarks: /DROLOGY /etland Hydrology Indicators: rimary Indicators (minimum of one require _ Surface Water (A1)	Salt Crust (E	311)		Secondary II	ndicators (minimum of two required Soil Cracks (B6)
Depth (inches): 6 // Idemarks: /DROLOGY /etland Hydrology Indicators: rimary Indicators (minimum of one require Surface Water (A1) High Water Table (A2)	Salt Crust (E Aquatic Inve	311) ertebrates (B13		Secondary Ir Surface Sparsely	ndicators (minimum of two required Soil Cracks (B6) v Vegetated Concave Surface (B8)
Depth (inches): 6 // Idemarks: /DROLOGY /etland Hydrology Indicators: rimary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3)	Salt Crust (E Aquatic Inve	311) ertebrates (B13 ulfide Odo <u>r (C</u> 1)	Secondary II Surface Sparsely Drainage	ndicators (minimum of two required Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10)
Depth (inches): 6 // lemarks: /DROLOGY /etland Hydrology Indicators: rimary Indicators (minimum of one require _ Surface Water (A1) _ High Water Table (A2) _ Saturation (A3) _ Water Marks (B1)	Salt Crust (E Aquatic Inve Hydrogen S Dry-Season	311) ertebrates (B13 ulfide Odo <u>r (C</u> 1 Water Table (C	;2)	Secondary II Surface Sparsely Drainage Oxidized	ndicators (minimum of two required Soil Cracks (B6) Vegetated Concave Surface (B8)
Depth (inches): 67 Demarks: POROLOGY Vetland Hydrology Indicators: rimary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Salt Crust (E Aquatic Inve	311) ertebrates (B13 ulfide Odo <u>r (C</u> 1 Water Table (C	;2)	Secondary II Surface Sparsely Drainage Oxidized	ndicators (minimum of two required Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10)
Depth (inches): 67 emarks: /DROLOGY /etland Hydrology Indicators: rimary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	Salt Crust (E Aquatic Inve Hydrogen S Dry-Season	311) ertebrates (B13 ulfide Odor (C1 Water Table (0 izospheres on	;2)	Secondary Ir Surface Sparsely Drainage Oxidized C3) (where	ndicators (minimum of two required Soil Cracks (B6) o Vegetated Concave Surface (B8) e Patterns (B10) I Rhizospheres on Living Roots (C3
Depth (inches): 6// Idemarks: /DROLOGY /etland Hydrology Indicators: rimary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no	311) ertebrates (B13 ulfide Odor (C1 Water Table (0 izospheres on	2) Living Roots (Secondary Ir Surface Sparsely Orainage Oxidized C3) (where Crayfish	ndicators (minimum of two required Soil Cracks (B6) v Vegetated Concave Surface (B8) e Patterns (B10) l Rhizospheres on Living Roots (C3 e tilled)
Depth (inches): 6// Remarks: //DROLOGY //etland Hydrology Indicators: rimary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S	B11) Interretates (B13 Interre	2) Living Roots (Secondary II Surface Sparsely Drainage Oxidized C3) (where Crayfish Saturation	ndicators (minimum of two required Soil Cracks (B6) v Vegetated Concave Surface (B8) e Patterns (B10) l Rhizospheres on Living Roots (C3 e tilled) Burrows (C8)
Depth (inches): 6// Remarks: //DROLOGY //etland Hydrology Indicators: rimary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S	B11) Interretates (B13 Interre	2) Living Roots (Secondary Ir Surface Sparsely Drainage Oxidized C3) (where Crayfish Saturatic	ndicators (minimum of two required Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C3 tilled) Burrows (C8) on Visible on Aerial Imagery (C9)
Depth (inches): 6// Idemarks: //DROLOGY //etland Hydrology Indicators: rimary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S	B11) Intebrates (B13 Intebrates (B13 Inter Table (California) Inter Tab	2) Living Roots (Secondary Ir Surface Sparsely Drainage Oxidized C3) (where Crayfish Saturation Geomory FAC-Nee	ndicators (minimum of two required Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C3 tilled) Burrows (C8) on Visible on Aerial Imagery (C9)
Depth (inches): 6// Idemarks: //DROLOGY //etland Hydrology Indicators: rimary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B Water-Stained Leaves (B9)	Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S	B11) Intebrates (B13 Intebrates (B13 Inter Table (California) Inter Tab	2) Living Roots (Secondary Ir Surface Sparsely Drainage Oxidized C3) (where Crayfish Saturation Geomory FAC-Nee	odicators (minimum of two required Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C3 tilled) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2)
Depth (inches): 6// Idemarks: //DROLOGY //etland Hydrology Indicators: rimary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B Water-Stained Leaves (B9) eld Observations:	Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh	B11) Interrates (B13 Interrates (B13 Interrates (C1) Interrates (C2) Interrates (C2) Interrates (C3) Interrates (C4) Interrates (C4) Interrates (C4) Interrates (C4) Interrates (C4) Interrates (C4)	:2) Living Roots (Secondary Ir Surface Sparsely Drainage Oxidized C3) (where Crayfish Saturation Geomory FAC-Nee	odicators (minimum of two required Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C3 tilled) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2)
Depth (inches): 6// Remarks: YDROLOGY Vetland Hydrology Indicators: Trimary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B Water-Stained Leaves (B9) ield Observations: urface Water Present? Yes	Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S Other (Expla	B11) Intebrates (B13 Intebrates (B13 Inter Table (California) Inter Table (California) Reduced Iron Interface (C7) Interface (C7) Interface (C7) Interface (C8)	22) Living Roots (Secondary Ir Surface Sparsely Drainage Oxidized C3) (where Crayfish Saturation Geomory FAC-Nee	ndicators (minimum of two required Soil Cracks (B6) v Vegetated Concave Surface (B8) e Patterns (B10) l Rhizospheres on Living Roots (C3 e tilled) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2)
Depth (inches):	Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S T) Other (Expla	ertebrates (B13 ulfide Odor (C1 Water Table (C1 izospheres on titiled) Reduced Iron furface (C7) ain in Remarks) es):	:2) Living Roots (Secondary Ir Surface Sparsely Drainage Oxidized C3) (where Crayfish Saturatic Geomory FAC-Nee	odicators (minimum of two required Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C3 tilled) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) ave Hummocks (D7) (LRR F)
Depth (inches):	Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S Other (Expla	ertebrates (B13 ulfide Odor (C1 Water Table (C1 izospheres on titiled) Reduced Iron furface (C7) ain in Remarks) es):	:2) Living Roots (Secondary Ir Surface Sparsely Drainage Oxidized C3) (where Crayfish Saturatic Geomory FAC-Nee	odicators (minimum of two required Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C3 tilled) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2)
Depth (inches): 6// Remarks: POROLOGY Vetland Hydrology Indicators: rimary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B Water-Stained Leaves (B9) veted Observations: curface Water Present? Ves aturation Present? Yes acturation Present? Yes includes capillary fringe)	Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S Other (Expla	es): ertebrates (B13 ulfide Odor (C4 Water Table (C6 izospheres on titlled) Reduced Iron furface (C7) sin in Remarks) es): es):	C4) Wetla	Secondary In Surface Sparsely Drainage Oxidized C3) (where Crayfish Saturation Geomory FAC-Nee Frost-He	odicators (minimum of two required Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C3 tilled) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) ave Hummocks (D7) (LRR F)
Depth (inches): 6// Idemarks: Indicators (minimum of one require one require of one	Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S Other (Expla	es): ertebrates (B13 ulfide Odor (C4 Water Table (C6 izospheres on titlled) Reduced Iron furface (C7) sin in Remarks) es): es):	C4) Wetla	Secondary In Surface Sparsely Drainage Oxidized C3) (where Crayfish Saturation Geomory FAC-Nee Frost-He	odicators (minimum of two required Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C3 tilled) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) ave Hummocks (D7) (LRR F)
Depth (inches): 6// Idemarks: Indicators (minimum of one require of	Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S Other (Expla	es): ertebrates (B13 ulfide Odor (C4 Water Table (C6 izospheres on titlled) Reduced Iron furface (C7) sin in Remarks) es): es):	C4) Wetla	Secondary In Surface Sparsely Drainage Oxidized C3) (where Crayfish Saturation Geomory FAC-Nee Frost-He	ndicators (minimum of two required Soil Cracks (B6) v Vegetated Concave Surface (B8) e Patterns (B10) l Rhizospheres on Living Roots (C3 e tilled) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) ave Hummocks (D7) (LRR F)

Project/Site: Billing Bybass	City/C	County: <u>Yel</u>	Oustone Sampling Date: 8/25
			State: MT Sampling Point: AC - S
Investigator(s): L. Stagis G. P.	and Section	on, Township, Ra	nge: S7, T/N, R27E convex. none): Slope (%):,5-8
l andform (fillslone) terrace etc.):	Loca	I relief (concave.)	convex, none): Slope (%): 5-8
Subregion (LRR):	l at·		Long: Datum:
• • •			NWI classification: PΣ m
Soil Map Unit Name:			·
Are climatic / hydrologic conditions on the site typical fo			(if no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology			"Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology	naturally problem	atic? (If ne	eeded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site m	ap showing san	npling point l	ocations, transects, important features, etc
No. 1	No		1
, , , ,	No No	Is the Sampled	3
	No	within a Wetlar	nd? Yes No
Remarks: waste ditch a'd to creek		Yz" wide	Plans S. to Yellowsho
	30.	T' of PHAR	
	50	90	-
45	. 1 4 .		,
VEGETATION – Use scientific names of p		ninent Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)		ninant Indicator cies? <u>Status</u>	Number of Dominant Species
1			That Are OBL, FACW, or FAC
2.			(excluding FAC-): (A)
			Total Number of Dominant
4			Species Across All Strata: (B)
	= To	tal Cover	Percent of Dominant Species That Are OBL FACW or FAC: (A/B)
Sapling/Shrub Stratum (Plot size:			That Are OBL, FACW, or FAC:
1			Prevalence Index worksheet:
			Total % Cover of: Multiply by:
			OBL species x 1 =
5.			FACW species x 2 =
	= To	tal Cover	FAC species x 3 =
Herb Stratum (Plot size:) 1. Phalaris arundinacea	100	/ EACH	
1	· ·		Column Totals: (A) (B)
3.			
4			Prevalence Index = B/A =
5			Hydrophytic Vegetation Indicators:
6.			1 - Rapid Test for Hydrophytic Vegetation
7			2 - Dominance Test is >50%
8.	•		3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting
9			data in Remarks or on a separate sheet)
10	· · ·		Problematic Hydrophytic Vegetation¹ (Explain)
Maria Charles (District	= To	tal Cover	¹ Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size:)			be present, unless disturbed or problematic.
1			Hydrophytic
2		tal Cover	Vegetation
% Bare Ground in Herb Stratum			Present? Yes No
Remarks:		•	
			Great Plains – Version 2.0
US Army Corps of Engineers			Great Flams - version 2.0

Dean, Turkey Valture

	<u> </u>			W.H.		0	Inchi
Project/Site: Billings	Bupass		lity/County:	<u> Yello</u>	MISTORILE	_ Sampling Date: _ S	100111
Applicant/Owner:					State: MT	Sampling Point: // F	<i></i>
· · · · · · / Stani	s, G. Ranc	<u>/\ </u>	Section, Tow	vnship, Ran	ige: 51,71/	1, K 26 E	
							/6): <u>O</u>
Subregion (LRR):					Long:	Datam	
Soil Map Unit Name:					NWI classifi	ication: <u>RQ SYY</u>	
Are climatic / hydrologic conditions on the	ne site typical for this	time of yea	ır? Yes	√ No _	(If no, explain in I	Remarks.)	,
Are Vegetation, Soil, or				Are "l	Normal Circumstances"	present? Yes	No
Are Vegetation, Soil, or					eded, explain any answ		
SUMMARY OF FINDINGS - A	ttach site map s	howing	sampling	g point lo	ocations, transect	s, important featu	res, etc.
)		•			1
Hydrophytic Vegetation Present? Hydric Soil Present?		·	ls the	e Sampled	Area d? Yes <u>↓</u>	/ No	
Wetland Hydrology Present?	Yes / No)					
Remarks:	steep	side	d cor	and 1	J15 ownss		
	no we	land	vea.	post.	1 foot Crawn	de	
muldeling	All I	·	200	1			
	names of plant	·			-		, ,
VEGETATION – Use scientific			Dominant	Indicator	Dominance Test wor	rksheet:	
Tree Stratum (Plot size:		% Cover	Species?	Status	Number of Dominant	Species	
1			·		That Are OBL, FACW	, or FAC	(A)
2					(excluding FAC-):	<u> </u>	(, ,
3.					Total Number of Dom Species Across All St		· (B)
4					· .		\-'
Sapling/Shrub Stratum (Plot size:	1		= Total Cov	er.	Percent of Dominant : That Are OBL, FACW	Species Lor FAC: ////	(A/B)
1					13		
2.					Prevalence Index wo	orksneet: : Multiply by	r.
3.					[x 1 =	1
4.						×2=	
5.						x3=	
	,		= Total Cov	/er		×4=	
Herb Stratum (Plot size:		70	1/	OBL		x5=	
1 Typha latitoha	- Callalls					(A)	
3. Solanum dulcumara	himbergood	2		FACU			
4. Mimulus gutatus -	makey flo	u 2		081	Hydrophytic Vegeta	ex = B/A =	
5.	J				1	r Hydrophytic Vegetatio	in .
6.				`	2 - Dominance T		,,
7.					3 - Prevalence In		
8.					4 - Mornhologica	al Adaptations ¹ (Provide	supporting
9		· .			data in Rema	rks or on a separate she	eet)
10					Problematic Hyd	rophytic Vegetation ¹ (Ex	xplain)
(5)			= Total Co	ver	¹ Indicators of hydric s	soil and wetland hydrolo	gy must
Woody Vine Stratum (Plot size:1					be present, unless di	isturbed or problematic.	
2.					Hydrophytic	٠. ر	
2			= Total Co	ver	Vegetation	Yes No	
% Bare Ground in Herb Stratum							
Remarks: parts of the	Canal all	ratte	. N	i i . Pr	codly nealt:	shade on world	ercres
The state of the	had all	COCITO		(1)			
w/Aquatic	, <i>veo</i>	:	1	h.,+	and line of		
*Water cress	s-aquat	1 C P	1 an	V LUG	(101 (.2169)	Great Plains – V	/ersion 2.0
US Army Corps of Engineers	v						

Profile Description: (Describe to the de	pth needed to docum	ent the in	dicator o	or confirm	the absence	e of indicators.)
Depth Matrix		Features				
(inches) Color (moist) %	Color (moist)		Type ¹	Loc2	Texture	Remarks
0-3 25142 150					81 Wy C	las
2-10 MYR 4/2 90	IN YR 4/C	10		hon	, <i>}</i>	/ Redox + Hepl.
3 10 10 /2 10	Or of the second	- سن	<u> </u>			
	Bey 1711	/	<u> </u>	IY		
10-16 25 74/1	Colen 1 4N	15		$\Delta \Lambda$		V
7)'/			,		
						<u> </u>
	1		·			
			: 5 19			
1 - 0 0 - 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				1010	_: 21 _	nation. Displays Links A5-Matrix
¹Type: C=Concentration, D=Depletion, RN				Sand Gr		cation: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to al						s for Problematic Hydric Solls ³ :
Histosol (A1)		leyed Matr	ix (S4)			Muck (A9) (LRR I, J)
Histic Epipedon (A2)		edox (S5)				Prairie Redox (A16) (LRR F, G, H)
Black Histic (A3)		Matrix (S6				Surface (S7) (LRR G)
Hydrogen Sulfide (A4)		lucky Mine			-	Plains Depressions (F16)
Stratified Layers (A5) (LRR F)		leyed Matr			•	RR H outside of MLRA 72 & 73)
1 cm Muck (A9) (LRR F, G, H)	Depleted					ced Vertic (F18)
Depleted Below Dark Surface (A11)		ark Surface				Parent Material (TF2)
Thick Dark Surface (A12)		Dark Surfa				Shallow Dark Surface (TF12)
Sandy Mucky Mineral (S1)		epressions -		1.		(Explain in Remarks)
2.5 cm Mucky Peat or Peat (S2) (LRR		-				of hydrophytic vegetation and
5 cm Mucky Peat or Peat (S3) (LRR F)) (MLR	A 72 & 73	of LRR	H)		d hydrology must be present,
					uniess	s disturbed or problematic.
Restrictive Layer (if present):						
Туре:	·····					
Depth (inches):					Hydric Soi	Present? Yes No
Remarks:					L	-

						ν
HYDROLOGY						· · · · · · · · · · · · · · · · · · ·
						, 'A,
Wetland Hydrology Indicators:		·				· · · · · · · · · · · · · · · · · · ·
Primary Indicators (minimum of one require	d; check all that apply)					ary Indicators (minimum of two required)
Wetland Hydrology Indicators:	d; check all that apply) Salt Crust (b					ary Indicators (minimum of two required) face Soil Cracks (B6)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require		311)	(B13)		Sur	
Wetland Hydrology Indicators: Primary Indicators (minimum of one require V Surface Water (A1)	Salt Crust (F	311) ertebrates (Sur Spa	face Soil Cracks (B6)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require V Surface Water (A1) High Water Table (A2)	Salt Crust (E Aquatic Inve	311) ertebrates (ulfide Odo	r (C1)		Sur Spa Dra	face Soil Cracks (B6) rrsely Vegetated Concave Surface (B8)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require V Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	Salt Crust (E Aquatic Inve Hydrogen S Dry-Season	311) ertebrates (ulfide Odo Water Tat	r.(C1) ole (C 2)	fg Roots (Sur Spa Dra Oxi	face Soil Cracks (B6) irsely Vegetated Concave Surface (B8) inage Patterns (B10)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require V Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh	311) ertebrates (ulfide Odo Water Tat iizosphere	r.(C1) ole (C 2)	fg Roots ((Sur Spa Dra Oxi C3) (v	face Soil Cracks (B6) ursely Vegetated Concave Surface (B8) inage Patterns (B10) dized Rhizospheres on Living Roots (C3) where tilled)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require V Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no	311) ertebrates (ulfide Odo Water Tat izospheres of tilled)	r.(C1) ole (C2) s on Livit		Sur Spa Dra Oxi C3) (v Cra	face Soil Cracks (B6) ursely Vegetated Concave Surface (B8) inage Patterns (B10) dized Rhizospheres on Living Roots (C3) where tilled) yfish Burrows (C8)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require V Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no	B11) ortebrates (ulfide Odo Water Tat izospheres of tilled) Reduces	r (C1) ole (C2) s on Livit tron (C4)		Sur Spa Dra Oxi Cra Sat	face Soil Cracks (B6) irsely Vegetated Concave Surface (B8) inage Patterns (B10) dized Rhizospheres on Living Roots (C3) where tilled) yfish Burrows (C8) uration Visible on Aerial Imagery (C9)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require V Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S	B11) ertebrates (ulfide Odo; Water Tat ilzosphere: of tilled) Reduced	r (C1) ole (C2) s on Livit dron (C4) 7)		Sur Spa Oxi Cxi Cra Sat Geo	face Soil Cracks (B6) arsely Vegetated Concave Surface (B8) inage Patterns (B10) dized Rhizospheres on Living Roots (C3) where tilled) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) omorphic Position (D2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require V Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B	Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S	B11) ertebrates (ulfide Odo; Water Tat ilzosphere: of tilled) Reduced	r (C1) ole (C2) s on Livit dron (C4) 7)		Sur Spa Oxi Cra Satt Ged FAC	face Soil Cracks (B6) arsely Vegetated Concave Surface (B8) inage Patterns (B10) dized Rhizospheres on Living Roots (C3) where tilled) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) cmorphic Position (D2) C-Neutral Test (S5)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require Vaurace Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B Water-Stained Leaves (B9)	Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S	B11) ertebrates (ulfide Odo; Water Tat ilzosphere: of tilled) Reduced	r (C1) ole (C2) s on Livit dron (C4) 7)		Sur Spa Oxi Cra Satt Ged FAC	face Soil Cracks (B6) arsely Vegetated Concave Surface (B8) inage Patterns (B10) dized Rhizospheres on Living Roots (C3) where tilled) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) omorphic Position (D2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require V Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B	Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S 7) Other (Expla	artebrates (ulfide Odo; Water Tataizosphere: of tilled) Reduced Gurface (Common Remi	r (C1) ole (C2) s on Livit dron (C4) 7)		Sur Spa Oxi Cra Satt Ged FAC	face Soil Cracks (B6) arsely Vegetated Concave Surface (B8) inage Patterns (B10) dized Rhizospheres on Living Roots (C3) where tilled) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) cmorphic Position (D2) C-Neutral Test (S5)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require V Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B Water-Stained Leaves (B9) Field Observations:	Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S	artebrates (ulfide Odo; Water Tataizosphere: of tilled) Reduced Gurface (Common Remi	r (C1) ole (C2) s on Livit dron (C4) 7)		Sur Spa Oxi Cra Satt Ged FAC	face Soil Cracks (B6) arsely Vegetated Concave Surface (B8) inage Patterns (B10) dized Rhizospheres on Living Roots (C3) where tilled) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) cmorphic Position (D2) C-Neutral Test (S5)
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Wetland Hydrology Indicators: Primary Indicators (minimum of one require V Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B Water-Stained Leaves (B9) Field Observations: Surface Water Present? Water Table Present?	Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S 7) Other (Expla	artebrates (ulfide Odo) Water Tat uizospheres of tilled) Reduced Gurface (C7 ain in Remi	r (C1) ole (C2) s on Livit dron (C4) 7)	-	Sur Spa Oxi Cra Sate Gec FAC	face Soil Cracks (B6) arsely Vegetated Concave Surface (B8) inage Patterns (B10) dized Rhizospheres on Living Roots (C3) where tilled) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) comorphic Position (D2) C-Neutral Test (D5) st-Heave Hummocks (D7) (LRR F)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require V Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B Water-Stained Leaves (B9) Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present? Yes	Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S 7) Other (Expla	artebrates (ulfide Odo) Water Tat uizospheres of tilled) Reduced Gurface (C7 ain in Remi	r (C1) ole (C2) s on Livit dron (C4) 7)	-	Sur Spa Oxi Cra Satt Ged FAC	face Soil Cracks (B6) arsely Vegetated Concave Surface (B8) inage Patterns (B10) dized Rhizospheres on Living Roots (C3) where tilled) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) comorphic Position (D2) C-Neutral Test (D5) st-Heave Hummocks (D7) (LRR F)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require V Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B Water-Stained Leaves (B9) Field Observations: Surface Water Present? Water Table Present?	Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S 7) Other (Explain No Depth (inch No Depth (inch	ertebrates (ulfide Odo; Water Tat nizosphere: ot tilled) Reduced Gurface (Cr ain in Remi	r (C1) s on Livit fron (C4) 7) arks)	- Wetla	Sur Spa Oxi Cra Sate FAC From	face Soil Cracks (B6) arsely Vegetated Concave Surface (B8) inage Patterns (B10) dized Rhizospheres on Living Roots (C3) where tilled) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) comorphic Position (D2) C-Neutral Test (D5) st-Heave Hummocks (D7) (LRR F)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require V Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B Water-Stained Leaves (B9) Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present? Yes (includes capillary fringe)	Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S 7) Other (Explain No Depth (inch No Depth (inch	ertebrates (ulfide Odo; Water Tat nizosphere: ot tilled) Reduced Gurface (Cr ain in Remi	r (C1) s on Livit fron (C4) 7) arks)	- Wetla	Sur Spa Oxi Cra Sate FAC From	face Soil Cracks (B6) arsely Vegetated Concave Surface (B8) inage Patterns (B10) dized Rhizospheres on Living Roots (C3) where tilled) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) comorphic Position (D2) C-Neutral Test (D5) st-Heave Hummocks (D7) (LRR F)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require V Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B Water-Stained Leaves (B9) Field Observations: Surface Water Present? Water Table Present? Yes Vater Table Present? Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge, metal)	Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S 7) Other (Explain No Depth (inch No Depth (inch onitoring well, aerial ph	ertebrates (ulfide Odo; Water Tat nizosphere: ot tilled) Reduced Gurface (Cr ain in Remi	r (C1) s on Livit fron (C4) 7) arks)	- Wetla	Sur Spa Oxi Cra Sate FAC From	face Soil Cracks (B6) arsely Vegetated Concave Surface (B8) inage Patterns (B10) dized Rhizospheres on Living Roots (C3) where tilled) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) omorphic Position (D2) C-Neutral Test (B5) st-Heave Hummocks (D7) (LRR F)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require V Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B Water-Stained Leaves (B9) Field Observations: Surface Water Present? Water Table Present? Yes Vater Table Present? Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge, metal)	Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S 7) Other (Explain No Depth (inch No Depth (inch onitoring well, aerial ph	ertebrates (ulfide Odo; Water Tat nizosphere: ot tilled) Reduced Gurface (Cr ain in Remi	r (C1) s on Livit fron (C4) 7) arks)	- Wetla	Sur Spa Oxi Cra Sate FAC From	face Soil Cracks (B6) arsely Vegetated Concave Surface (B8) inage Patterns (B10) dized Rhizospheres on Living Roots (C3) where tilled) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) omorphic Position (D2) C-Neutral Test (B5) st-Heave Hummocks (D7) (LRR F)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required of the variable of	Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S 7) Other (Explain No Depth (inch No Depth (inch onitoring well, aerial ph	ertebrates (ulfide Odo; Water Tat nizosphere: ot tilled) Reduced Gurface (Cr ain in Remi	r (C1) s on Livit fron (C4) 7) arks)	- Wetla	Sur Spa Oxi Cra Sate FAC From	face Soil Cracks (B6) arsely Vegetated Concave Surface (B8) inage Patterns (B10) dized Rhizospheres on Living Roots (C3) where tilled) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) omorphic Position (D2) C-Neutral Test (B5) st-Heave Hummocks (D7) (LRR F)

Project/Site: Sillings Bupass	5Mcity/County: <u>Se</u>	State: M Sampling Date: 8/85/11
Applicant/Owner: MDT	<u> </u>	State: IY Sampling Point: AD 2
nuestigator(s): L. Stradis, G. Ra	⋒⊘ Section, Township, F	Range:
and the same of th	LOCALIERELICUILAY	C. CUTIVEA, TOPIOT, /
Cubration (LDD):	Lat: 😕	Datum:
Soil Map Unit Name:		NWI classification: upland
Are climatic / hydrologic conditions on the site typical for this	time of year? Yes No	(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrologys		re "Normal Circumstances" present? Yes No
		f needed, explain any answers in Remarks.)
Are Vegetation, Soil, or Hydrologyn		t locations, transects, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wes N Westland Hydrology Present? Yes N	o Is the Sample	led Area
Remarks: I rrigated hay field	· · · · · · · · · · · · · · · · · · ·	
VEGETATION - Use scientific names of plan		
Tree Stratum (Plot size:) 1		or Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): (A)
3.		Total Number of Dominant Species Across All Strata: (B)
4	= Total Cover .	Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
1.	·	Prevalence Index worksheet:
.2.		Total % Cover of: Multiply by:
3		OBL species x1 =
4		FACW species x 2 =
5	= Total Cover	FAC species x 3 =
Herb Stratum (Plot size:)		FACU species x4 =
Library of the August Cut of bis	h LAP	UPL species x 5 =
2 Gorome LCR wheat arass	?	Column Totals: (A) (B)
3. ortimoty nearby)		Prevalence Index = B/A =
		Hydrophytic Vegetation Indicators:
5		1
6		2 - Dominance Test is >50%
7		3 - Prevalence Index is ≤3.0¹
8.		4 - Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)
9		Problematic Hydrophytic Vegetation¹ (Explain)
10.	= Total Cover	
Woody Vine Stratum (Plot size:) 1		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2.		Hydrophytic
· · · · · · · · · · · · · · · · · · ·	= Total Cover	Vegetation Present? Yes No
% Bare Ground in Herb Stratum		
Remarks:		•
	1	Great Plains – Version 2.0

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SOIL			Sampling Point: AD
Profile Description: (Desc	cribe to the dept	h needed to document the indicator or	r confirm the absence of indicators.)
	ıtrix	Redox Features	
(inches) Color (moi	. /	Color (moist) % Type ¹	Loc ² Texture Remarks
0-8 104R3	12		<u>clav</u>
8-12 254	1/2 95	25 y 4/3 5	clair
To rey			faint color change
			value coron croma
			
	:		
		,	
			-

		Reduced Matrix, CS=Covered or Coated	
Hydric Soil Indicators: (A	pplicable to all L	RRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
Histosol (A1)		Sandy Gleyed Matrix (S4)	1 cm Muck (A9) (LRR I, J)
Histic Epipedon (A2)		Sandy Redox (S5)	Coast Prairie Redox (A16) (LRR F, G, H)
Black Histic (A3)		Stripped Matrix (S6)	Dark Surface (S7) (LRR G)
Hydrogen Sulfide (A4)	DD E'	Loamy Mucky Mineral (F1)	High Plains Depressions (F16)
Stratified Layers (A5) (L		Loamy Gleyed Matrix (F2)	(LRR H outside of MLRA 72 & 73)
1 cm Muck (A9) (LRR F Depleted Below Dark S		Depleted Matrix (F3) Redox Dark Surface (F6)	Reduced Vertic (F18)
Depleted below balk Si Thick Dark Surface (A1)		Depleted Dark Surface (F7)	Red Parent Material (TF2) Very Shallow Dark Surface (TF12)
Sandy Mucky Mineral (\$. /	Redox Depressions (F8)	Other (Explain in Remarks)
2.5 cm Mucky Peat or P			- · · ·
5 cm Mucky Peat or Pe		(MLRA 72 & 73 of LRR H	
•		•	unless disturbed or problematic.
Restrictive Layer (if presen	nt):		
Type:		· 	
Depth (inches):		·	Hydric Soil Present? Yes No
Remarks:			-
		none	•
		-	
	•		
	· · · · · · · · · · · · · · · · · · ·		
YDROLOGY	· , , , , , , , , , , , , , , , , , , ,		
HYDROLOGY Wetland Hydrology Indicat	ors:		
		check all that apply)	Secondary Indicators (minimum of two required)
Wetland Hydrology Indicat		check all that apply) Salt Crust (B11)	
Wetland Hydrology Indicat Primary Indicators (minimum			Surface Soil Cracks (B6)
Wetland Hydrology Indicat Primary Indicators (minimum Surface Water (A1)		Salt Crust (B11)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8)
Wetland Hydrology Indicat Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3)		Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	Surface Soil Cracks (B6)Sparsely Vegetated Concave Surface (B8)Drainage Patterns (B10)
Wetland Hydrology Indicat Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	n of one required;	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2)	 Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3)
Wetland Hydrology Indicat Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	n of one required;	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) Roots (C3) (where tilled)
Wetland Hydrology Indicat Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	n of one required;	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living (where not tilled)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8)
Wetland Hydrology Indicat Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	n of one required;	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9)
Wetland Hydrology Indicat Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	n of one required;	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Seasen Water Table (C2) Oxidized Rhizospheres en Living (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
Wetland Hydrology Indicat Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Ae	erial Imagery (B7)	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5)
Wetland Hydrology Indicat Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Ae Water-Stained Leaves (6	erial Imagery (B7)	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Seasen Water Table (C2) Oxidized Rhizospheres en Living (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
Wetland Hydrology Indicat Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Ae Water-Stained Leaves (I	erial Imagery (B7)	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5)
Wetland Hydrology Indicat Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Ae Water-Stained Leaves (BFIELD (BE) Water Water Present?	erial Imagery (B7) B9) Yes No	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Seasen Water Table (C2) Oxidized Rhizospheres en Living (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5)
Wetland Hydrology Indicat Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Ae Water-Stained Leaves (Incident Communication Communicatio	erial Imagery (B7) B9) Yes No	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Seasen Water Table (C2) Oxidized Rhizospheres en Living	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3)
Wetland Hydrology Indicat Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Ae Water-Stained Leaves (Incident of the Company of the	erial Imagery (B7) B9) Yes No	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Seasen Water Table (C2) Oxidized Rhizospheres en Living (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5)
Wetland Hydrology Indicat Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Ae Water-Stained Leaves (BE) Water Water Present? Water Table Present? Saturation Present? (includes capillary fringe)	erial Imagery (B7) B9) Yes No Yes No	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Seasen Water Table (C2) Oxidized Rhizospheres en Living (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): Depth (inches):	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5) Frost-Heave Hummocks (D7) (LRR F) Wetland Hydrology Present? Yes No
Wetland Hydrology Indicat Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Ae Water-Stained Leaves (BE) Water Table Present? Saturation Present? (includes capillary fringe)	erial Imagery (B7) B9) Yes No Yes No	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Seasen Water Table (C2) Oxidized Rhizospheres en Living	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5) Frost-Heave Hummocks (D7) (LRR F) Wetland Hydrology Present? Yes No
Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Ae Water-Stained Leaves (I Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (streeps	erial Imagery (B7) B9) Yes No Yes No Yes No Yes No	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Seasen Water Table (C2) Oxidized Rhizospheres en Living (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): Depth (inches):	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5) Frost-Heave Hummocks (D7) (LRR F) Wetland Hydrology Present? Yes No

				•	alec ly
Project/Site: BIllings Bypass		City/County: _	Della	matano	Sampling Date: S/2 (a) //
WAT				State:	Sampling Point: /-
Listralis (2 Ra	nd:	Section, Towr	iship, Rang	ge: <u>57, TLY</u>	KY/E
Landform (hillolong torrace letc): Hotal M OW	·	Local relief (q	oncave co	onvext, none):	Slope (%):
Subregion (LRR):	Lat:			Long:	Datum:
				NWI classific	cation: Uplan of
Soil Map Unit Name:	ic time of ver	ar2 Yes 1/	No	(If no, explain in F	Remarks.)
Are climatic / hydrologic conditions on the site typical for the	as time of yea	alisturbod?	Δro "N	Iormal Circumstances" I	present? Yes No
Are Vegetation, Soil, or Hydrology	significantly	ulstanded:		eded, explain any answe	
Are Vegetation, Soil, or Hydrology	naturally pro	plematic	-		
SUMMARY OF FINDINGS – Attach site map	showing	sampling	point lo	cations, transects	s, important reatures, etc.
Hydrophytic Vegetation Present? Yes	No.	1-4	Sampled .	Aroa	
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes		is the	ampieu a Metiani	d? Yes	No V
Wetland Hydrology Present? Yes		WILLIAM	a Wellan		
Remarks:	····				
low area, linear su	vale				
	nte	· · · · · · · · · · · · · · · · · · ·	······································		
VEGETATION - Use scientific names of pla	Absolute	Dominant I	ndicator	Dominance Test wor	ksheet:
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant S	Species
1. Populus detoides	<u>au</u>		FAC	That Are OBL, FACW, (excluding FAC+):	or FAC Q (A)
2.				•	
3				Total Number of Domi Species Across All Str	
4				,	ŕ
O : N - (O) - wh Charter (Plot cito)		_= Total Cove	er.	Percent of Dominant S That Are OBL, FACW	or FAC: 50 (A/B)
Sapling/Shrub Stratum (Plot size:) 1. Rhys hila bata skunk bush	> /		NI		
2. Salix fragits crack willow			FAC	Prevalence Index wo	1
35 umphorocal pus occidentalis	30		(PL	Total % Cover of:	x1 =
4				EACIM energies	0 x2= 1:20
5.				FAC species	$\frac{20}{20}$ x3= $\frac{60}{20}$
		_ = Total Cove	er	FACU species	40 x4= 160
Herb Stratum (Plot size:)	60	1/	T-ACH	UPL species	30 x5= 150
1. Phalans arundinacoa 2. Circium arvense C. Pricte		1/	FACU	f '	50 (A) 490 (B)
22.10					4x = B/A = 49 = 3.2
3				Prevalence Inde	
5.					r Hydrophytic Vegetation
6.				2 - Dominance To	
7				3 - Prevalence In	
8.				4 - Morphologica	Adaptations (Provide supporting
9.				data in Rema	rks or on a separate sheet)
10.				Problematic Hyd	rophytic Vegetation ¹ (Explain)
		_ = Total Cov	er	Indicators of hydric s	soil and wetland hydrology must
Woody Vine Stratum (Plot size:)				be present, unless di	sturbed or problematic.
1				Hydrophytic	
2		_ = Total Cov	er	Vegetation	(12 No 1/
% Bare Ground in Herb Stratum				Present?	Yes No
Remarks:					ク ク
					15/49
					45
					Great Plains – Version 2.0
US Army Corps of Engineers					Osout I mail Voloidii Elv

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J	u	ì	L	

Sampling Point: AFI

Profile Descrip	tion: (Describ	e to the depti	needed to document the indicat	or or confirm	the absence of i	ndicators.)
Depth _	Matrix	· .	Redox Features	1 s -	***	<u>.</u>
(inches)	Color (moist)		Color (moist) % Type	Loc ²	Texture	Remarks
0-16_	10 YC 3	(2_10) _			10am	
	. /				,	
		- 				
	 					
			<u> </u>			
						
	<u> </u>	·			2.	
			leduced Matrix, CS=Covered or Co	ated Sand Gr		n: PL=Pore Lining, M=Matrix.
		cable to all L	RRs, unless otherwise noted.)			Problematic Hydric Solls ³ :
Histosol (A			Sandy Gleyed Matrix (S4)		(A9) (LRR I, J)
Histic Epipe	• •		Sandy Redox (S5)			rie Redox (A16) (LRR F, G, H)
Black Histic	` '		Stripped Matrix (S6)	1)		ce (S7) (LRR G)
Hydrogen S	sulfide (A4) ayers (A5) (LRR	E)	Loamy Mucky Mineral (F Loamy Gleyed Matrix (F2			Depressions (F16) outside of MLRA 72 & 73)
· —	(A9) (LRR F, G	•	Depleted Matrix (F3)	•)	Reduced V	-
	elow Dark Surfa	•	Redox Dark Surface (F6)			t Material (TF2)
	Surface (A12)	,	Depleted Dark Surface (I			ow Dark Surface (TF12)
	ky Mineral (S1)		Redox Depressions (F8)	,		lain in Remarks)
	ky Peat or Peat	(S2) (LRR G,	H) High Plains Depressions	(F16)	³ Indicators of hy	ydrophytic vegetation and
5 cm Mucky	Peat or Peat (83) (LRR F)	(MLRA 72 & 73 of L	RR H)	wetland hyd	frology must be present,
					unless dist	urbed or problematic.
Restrictive Lay	er (if present):					
Type:						
Depth (inche	s):		<u> </u>		Hydric Soil Pres	sent? Yes No
Remarks:		·····			'	
			_			
			none			
HYDROLOGY	, .					
Wetland Hydro	logy Indicators	:				*
-	=-		check all that apply)	* .	Secondary In	dicators (minimum of two required)
Surface Wa		one reguirea,	Salt Crust (B11)			Soil Cracks (B6)
High Water			Aquatic Invertebrates (B13)		***	Vegetated Concave Surface (B8)
Saturation (Hydrogen Sulfide Odor (C1)			Patterns (B10)
Water Mark			Dry-Season Water Table (C		-	Rhizospheres on Living Roots (C3)
Sediment D			Oxidized Rhizospheres on L			
Sediment D			(where not tilled)	יאוווא נייסטנא (י		Burrows (C8)
			Presence of Reduced Iron (∵ ∆)		n Visible on Aerial Imagery (C9)
Algal Mat or				J+)		
Iron Deposi		Imagan, (D7)	Thin Muck Surface (C7)			ohic Position (D2)
	/isible on Aerial	mayery (D/)	Other (Explain in Remarks)			itral Test (D5)
	ed Leaves (B9)				riost-rie	ave Hummocks (D7) (LRR F)
Field Observati			Phone Decided			İ
Surface Water P			Depth (inches):			
Water Table Pre			Depth (inches):	1		
Saturation Prese		esNo	Depth (inches):	Wetla	nd Hydrology Pre	esent? Yes No
(includes capilla Describe Record		i dalloe moni	oring well, aerial photos, previous i	nspections) if	f available	
Posonne Medule	iva vala (3110dli	, gaage, mom	oring won, acriai priotos, previous i	iopoononaj, n	aranapic.	· · · · · · · · · · · · · · · · · · ·
Damada						
Remarks:						İ
						j
						Company

ject/site: Billings Bypass	City	//County: <u>Yell</u> o	State: MT Sampling Point: AF207
" VIET			Otate.
antimotorial: 1 Strains G Rand	Se	ction, Township, Ran	ge: S7 TIN, ICA/E
discuss (hillotone torrespent): +/000 hain	L-o	cal relief (concave, c	onvex, none): Slope (%)
bregion (LRR):	Lat:		liong: Datum
Il Map Unit Name:			NWI classification:
e climatic / hydrologic conditions on the site typical for this t	ime of vear?	Yes \/ No_	(If no, explain in Remarks.)
e Vegetation, Soil, or Hydrology sig			Normal Circumstances" present? Yes No
e Vegetation, Soil, or Hydrology na			eded, explain any answers in Remarks.)
JMMARY OF FINDINGS – Attach site map s	howing s	•	
1			
lydrophytic Vegetation Present? Yes No		Is the Sampled	1/
Vetland Hydrology Present? Yes 1 No		within a Wetlan	ar les
Remarks: Real dad abannel			
connecte w/vetland D	-2 6	roon	
Corner of actions	0 6		
EGETATION – Use scientific names of plants			
	Absolute [Dominant Indicator	Dominance Test worksheet:
ree Stratum (Plot size:)	% Cover 5	Species? Status	Number of Dominant Species
01 r + 11 . la.	<u> 30 </u>	V FAC	That Are OBL, FACW, or FAC
Elaeaganthus angustitolia/R, olive	_5	<i>FAC</i>	(CACIDATING).
			Total Number of Dominant
			Species Across All Strata:
No. 101 to 101 t	<u>35</u> =	Total Cover.	Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
Sapling/Shrub Stratum (Plot size:)			
1			Prevalence Index worksheet:
3.			Total % Cover of: Multiply by: OBL species x 1 =
1.			FACW species x2 =
5.			FAC species x 3 =
——————————————————————————————————————	=	Total Cover	FACU species x 4 =
Herb Stratum (Plot size:) 1. Phabris arundinacea	107	1/ OBL	
			Column Totals: (A) (B)
3.			·
3 4			Prevalence Index = B/A = Hydrophytic Vegetation Indicators:
5.			1 - Rapid Test for Hydrophytic Vegetation
6.			2 - Dominance Test is >50%
7.			3 - Prevalence Index is ≤3.0¹
8			4 - Morphological Adaptations (Provide supporting
9.			data in Remarks or on a separate sheet)
10			Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size:)		Total Cover	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1			
2		T.1.1.C	Hydrophytic Vegetation
9/ Para Cround in Hark Stratum		= Total Cover	Present? Yes No No
% Bare Ground in Herb Stratum		<i>t</i> ()	- Arm 3-tood Pidorsa
Remarks: Becade juro, rackdoe, ween Chickadee juro, rackdoe, ween	, qua	ribley	11AM 2 1CARE LLAND
anckader / Juno 1 Corrose , water		00.	a: Att 1 m as
	· P-	CATICKON OF	1 NOW (W) 1 D).

Lione Desi	cription: (Describe t	o the dep					01 001111111	i the absence	or marcators.	
Depth (inches)	Matrix Color (moist)	%	Color (r		Features %	Type ¹	Loc ²	Texture	Remarks	
<i>D</i> -2	10 VD 3/2	/0	(iioisti		TAbe		1	Kemarks	
1) and	10 18 92	·			•••••			10am	n (1).	
<u> </u>	10 YR 3/3		- 11.00					Clay 100		
5-18	10 40 3/2		15YR	96			M/PL	clayar	redox	
18+		R	1,		<u>n</u>	1 '	13	clay		
	7							J.		
-										
										
1Type: C=C	oncentration, D=Depl	etion PM:	-Padurad N	Matrix CS		or Coate	d Sand Gr	aine ² l oc	ation: PL=Pore Lining, M=Matrix.	
	Indicators: (Applica						u oanu or		for Problematic Hydric Soils ³ :	
Histosol			,		leyed Mat	-			luck (A9) (LRR I, J)	
_	pipedon (A2)				edox (Ş5)	•			Prairie Redox (A16) (LRR F, G, H)	
Black H	istic (A3)			Stripped	Matrix (S	3)		Dark S	urface (S7) (LRR G)	
	en Sulfide (A4)			•	lucky Mine				ains Depressions (F16)	
	d Layers (A5) (LRR F)			-	ileyed Mái			-	R H outside of MLRA 72 & 73) ed Vertic (F18)	
	uck (A9) (LRR F, G, H d Below Dark Surface		$\overline{\lor}$	Redox D	l Matrix (F ark Surfac				rent Material (TF2)	
	ark Surface (A12)	v,			Dark Sur				nallow Dark Surface (TF12)	
Sandy N	Mucky Mineral (S1)			•	epression				Explain in Remarks)	
	Mucky Peat or Peát (S	', '	∋, H)	_	ins Depres			³ Indicators of hydrophytic vegetation and		
5 cm Mu	ucky Peat or Peat (S3)	(LRR F)		(MLF	RA 72 & 7	3 of LRR	H)		hydrology must be present,	
Doctrictive	Layer (if present):		·····					uniess	disturbed or problematic.	
Type:										
• • • • • • • • • • • • • • • • • • • •	ches):							Hydric Soil	Present? Yes No	
Remarks:	Cites).							Tiyuno Soin	resent res_v no	
rtemants.										
			•							
		······			· · · · · · · · · · · · · · · · · · ·					
YDROLO			<u> </u>							
=	drology Indicators:									
	cators (minimum of on	e required							y Indicators (minimum of two required)	
Surface Water (A1) Salt Crust (B11)								ce Soil Cracks (B6)		
	ater Table (A2)			quatic Inve					sely Vegetated Concave Surface (B8)	
Saturatio	•			ydrogen S					age Patterns (B10)	
	tarks (B1) nt Deposits (B2)		·	ry-Season			na Booto ((zed Rhizospheres on Living Roots (C3)	
Drift Der	. ,					es on Livi	ng Roots (nere tilled)	
	` '			(where no		Iron (C4	١		fish Burrows (C8) ration Visible on Aerial Imagery (C9)	
=	at or Crust (B4) posits (B5)			resence of nin Muck S			,		norphic Position (D2)	
	on Visible on Aerial Im	nageny (R7		ther (Expla	•				Neutral Test (D5)	
	tained Leaves (B9)	lagely (Di	, 0	uici (Expi	ani in 17611	iaikoj			-Heave Hummocks (D7) (LRR F)	
Field Obser					······································			1.031		
Surface Wate		s t	No E	Depth (inch	ies):					
Water Table			10 E					•		
Saturation Pr		,	ام ا ام ال	epth (incl	nes): 15	371	- Wetla	nd Hydrology	Present? Yes No	
(includes cap	oillary fringe)		- 1	not in	idicato	, フリン"	\			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:										
···								·····		
Remarks:	5 from we	_	,		, ,	l l	, l	· · · · · · · · · · · · · · · · · · ·		
	5 Iron 100	さんは大い	edge	· in	plai	CAR CA	c no	ri riz X		
ADL	The IDI C Oct of		-C							

Project/Site: Billings	Bum 85	Ci	ty/County: <u>Yella</u>	ostone	Sampling Date: 8/26///
Applicant/Owner:	201			State: MT	Sampling Point: DP ACL
Investigator(s): 1. Stragi	s G Rano			ge: 57, TIN, B	
Landform (hillslope, terrace, etc.):	# Corplain	. I	ocal relief (concave.	onvex. none):	Slope (%): 2 -1
			ocal folior discount	Long:	Datum:
Subregion (LRR):				NWI classific	ation: RAZM
Soil Map Unit Name:				/if no evalain in P	omarke)
Are climatic / hydrologic conditions				(ii iio, explain iti iv	minarks.)
Are Vegetation, Soil					resent? Yes No
Are Vegetation, Soil			•	eded, explain any answe	
SUMMARY OF FINDINGS	 Attach site map 	showing s	sampling point lo	ocations, transects	, important features, etc.
Hydrophytic Vegetation Present?	Yes / N		Is the Sampled		
Hydric Soil Present? Wetland Hydrology Present?		lo	within a Wetlan	d? Yes <u>V</u>	NO
Remarks: Side channel	of yellous	M.C.	•		
	4***				
VEGETATION - Use scien	itific names of plar		Dominant Indicator	Dominance Test work	sheet:
Tree Stratum (Plot size:)		Species? Status	Number of Dominant S	
1				That Are OBL, FACW,	or FAC
2.				(excluding FAC-):	(A)
				Total Number of Domin	
, , , , , , , , , , , , , , , , , , , ,				Species Across All Stra	eta: (B)
Sapling/Shrub Stratum (Plot siz			Total Cover .	Percent of Dominant State That Are OBL FACW,	
1				Prevalence Index wor	·kehaat:
2.				1	Multiply by:
3.					x1=
4	<u></u>			1	x2 =
5					x3=
LL L O(Luny (Diet sime)	,	 -	= Total Cover		×4=
Herb Stratum (Plot size:	Clarinea	80	V (OBL)		×5=
2. Eleacharis palustris s	hillo much	30	VOBL	Column Totals:	(A)(B)
3.				D-velence index	D/A
4.				Hydrophytic Vegetati	c = B/A =
5.				1 " 2"	Hydrophytic Vegetation
6.				2 - Dominance Te	
7.				3 - Prevalence Ind	
8.				. —	Adaptations ¹ (Provide supporting
9.				data in Remark	s or on a separate sheet)
10.				Problematic Hydro	phytic Vegetation ¹ (Explain)
			= Total Cover	Indicators of hydric so	il and wetland hydrology must
Woody Vine Stratum (Plot size	:)			be present, unless dist	urbed or problematic.
1					
2				Hydrophytic Vegetation	
% Bare Ground in Herb Stratum	1		= Total Cover	Present? Yo	es / No
Remarks:				(1 3)	
Remarks: ** no f	lower wie	te 🗸	shake leav	an (S., · · ·)	
,	/ cour	عرب		V	
	1				
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c	^	1	
		н	1

Sampling Point: A61

Profile Des	cription: (Describe	to the dep	th needed to docur	nent the i	ndicator	or confirm	n the absence of	indicators.)			
Depth	Matrix			x Features			•		_		
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type ¹	_Loc ²	<u>Texture</u>	Remarks			
()-1	104R21						sand_				
1-0	2543/	520	5 UR46	20	<u> </u>	1	sandu	RedHK	-		
(2 10)	2 + 13/11	<i></i>	FINE WAY	- 	7	100	alan !	4.	· · · · · · · · · · · · · · · · · · ·		
R=12	~5/~//-	20	50K4/6	<u> 20</u>		11/	sandy cl	ay	-		
			<u> </u>					<u> </u>			
			\								
· · · · · · · · · · · · · · · · · · ·					*****						
	•			·							
¹Type: C=C	oncentration, D=Dep	letion, RM:	Reduced Matrix, CS	S=Covered	or Coate	d Sand G		ion: PL=Pore Lining, M≃Ma			
Hydric Soil	Indicators: (Application	able to all	LRRs, unless other	wise note	ed.)		Indicators fo	r Problematic Hydric Soils	s³:		
Histosol	(A1)		Sandy C	Sleyed Ma	trix (S4)		1 cm Mu	ck (A9) (LRR I, J)			
Histic E	pipedon (A2)		Sandy F	Redox (S5)	1			airie Redox (A16) (LRR F, G	i, H)		
	istic (A3)			l Matrix (S				face (S7) (LRR G)			
	en Sulfide (A4)			Mucky Min				ns Depressions (F16)			
	d Layers (A5) (LRR F		-	Gleyed Ma			•	H outside of MLRA 72 & 7	3)		
	ick (A9) (LRR F, G, I			d Matrix (F	•			Vertic (F18)			
. —	d Below Dark Surface	(A11)		Dark Surfa d ['] Dark Sui				ent Material (TF2) llow Dark Surface (TF12)			
	ark Surface (A12) Aucky Mineral (S1)			o Dark Sui Depression				(plain in Remarks)			
	vlucky Peat or Peat (S2) (I RR (ains Depre		16)		hydrophytic vegetation and			
	ucky Peat or Peat (S3			RA 72 & 7				ydrology must be present,			
	, , (, (,	(sturbed or problematic.			
Restrictive	Layer (if present):				***************************************						
Туре:											
Depth (in	ches):	,	•				Hydric Soil Pr	resent? Yes 🖊 No)		
Remarks:							1 -				
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						•					
							<u> </u>				
HYDROLO	GY										
Wetland Hy	drology Indicators:	·····					· · · · · · · · · · · · · · · · · · ·				
=	cators (minimum of o	ne required	I: check all that apply	/)		* .	Secondary	Indicators (minimum of two	required)		
	Water (A1)		Salt Crust				Surface Soil Cracks (B6)				
	nter Table (A2)		Aquatic Inv		(B13)			ly Vegetated Concave Surfa	ace (B8)		
Saturation			Hydrogen					ge Patterns (B10)	,		
	larks (B1)		Dry-Seaso					ed Rhizospheres on Living F	Roots (C3)		
	nt Deposits (B2)		Oxidized R			na Roots (re tilled)			
i /			(where n	· · · · · · · · · · · · · · · · · · ·	••••		` ` `	h Burrows (C8)			
·	✓ Drift Deposits (B3) (where not tilled) Algal Mat or Crust (B4) Presence of Reduced Iron (C4)						— · .	tion Visible on Aerial Imager	v (C9)		
	 •					,		orphic Position (D2)	, (00)		
	Iron Deposits (B5) Thin Muck Surface (C7) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks)							eutral Test (D5)			
	tained Leaves (B9)	nagory (D	/ Other (EXP	10.111 111 1101	namo)			leave Hummocks (D7) (LR	R F)		
Field Obser		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~				1					
Surface Wat		se 1	No Depth (inc	hee).							
						-	•				
Water Table		,	No Depth (inc		a			resent? Yes V	_		
Saturation P.		es <u>V</u> I	No Depth (inc	thes):	1	_ Wetla	and Hydrology P	resent/ Yes V	°		
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:											
Remarks:											
. williams.									ļ		
									.]		
				14					1		

Project/Site: Billings Bypass	City/County: Vell	nustone Sampling Date: 8/26/11
Project/Site: 5777743 134 Ph33		State: Sampling Point:
Applicant/Owner: MOT (nivestigator(s): L.Stragis, G. Rand)	Castion Township Ran	STTIN, R 27B
nivestigator(s):	Section, Township, Kan	Slone (%): () =
andform (hillslope, terrace)etc.): Hoad plan	Local relief (concave c	onvexi none) clope (70)
Subregion (LRR): Lat:		Long:Datum:
Soil Map Unit Name:		NWI classification: upland
Are climatic / hydrologic conditions on the site typical for this time of	of year? YesNo	(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significa		Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology : natural		eded, explain any answers in Remarks.)
vegetation, on, or , yet the state of the st	line point le	cations transacts important features, etc.
SUMMARY OF FINDINGS – Attach site map show	ang samping pont to	cations, transcool, important and a
Hydrophytic Vegetation Present? Yes No/	ls the Sampled	Агеа
Hydric Soil Present? Yes No		. 1/
Wetland Hydrology Present? Yes No _/	- Willim a Wellan	
Remarks:		
VEGETATION – Use scientific names of plants.		Dominance Test worksheet:
Abso	our Species? Status	Number of Dominant Species
Tree Stratum (Plot size:) %C	FAC	That Are OBL, FACW, or FAC
1. Flacagrus angustifolia, R. olive 5	<u></u>	(excluding FAC-) (A)
Z		Total Number of Dominant
3.		Species Across All Strata:(B)
4	= Total Cover .	Percent of Dominant Species
Sapling/Shrub Stratum (Plot size:)		That Are OBL, FACW, or FAC: (A/B)
1		Prevalence Index worksheet:
2.		Total % Cover of: Multiply by:
3		OBL species x1 =
4		FACW species x2 =
5.		FAC speciesX3 =
	= Total Cover	FACU species
Herb Stratum (Plot size:)	/ /API	1 1 X CO SPOSIO
1. Brown in an ans smooth brames	$\frac{0}{0}$ $\frac{v}{v}$ $\frac{vv}{v}$	Column Totals: (A) (B)
2 Zuphorbia esula la spurge 5	O D MED	Column Totals.
3.		Prevalence Index = B/A =
4.		Hydrophytic Vegetation Indicators
5		1 - Rapid Test for Hydrophytic Vegetation
6		2 - Dominance Test is >50%
7		3 - Prevalence Index is ≤3.0°
8		4 - Morphological Adaptations¹ (Provide supporting
9		data in Remarks or on a separate(sheet)
10.		Problematic Hydrophytic Vegetation ¹ (Explain)
	= Total Cover	¹ Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size:)		be present, unless disturbed or problematic.
1.		Hydrophytic
2	= Total Cover	Vacatation
% Bare Ground in Herb Stratum	- TOTAL COVEL	Present? Yes No No
Domadka: (A)		
Remarks. D. Con. C. J. S. Con.	X	
The state of the s	28-	
1 Part 2		
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and the second s
·
Sampling Point: <u>A.6.2</u>
of indicators.)
_
Remarks
lay loam
<u></u>
<u></u>
ation: PL=Pore Lining, M=Matrix.
for Problematic Hydric Soils ³ :
luck (A9) (LRR I, J)
Prairie Redox (A16) (LRR F, G, H)
urface (S7) (LRR G)
lains Depressions (F16)
R H outside of MLRA 72 & 73)
ed Vertic (F18)
arent Material (TF2)
hallow Dark Surface (TF12)
(Explain in Remarks) of hydrophytic vegetation and
d hydrology must be present,
disturbed or problematic.
distance of province
Present? Yes No
ary Indicators (minimum of two required)
face Soil Cracks (B6)
rsely Vegetated Concave Surface (B8)
rsely vegetated Concave Surface (Bo)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or co	nfirm the absence of indicators.)
Don'th Matrix Redox Features	1
(inches) Color (moist) % Color (moist) % Type¹ Lor	
0-8 10 YR 3/2 100 -	sandy clay loam
The Date of Control of Control San	nd Grains. ² Location: PL=Pore Lining, M=Matrix.
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sar Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
- 1 OL 144-14-70A	1 cm Muck (A9) (LRR I, J)
Histosol (A1) Sandy Gleyed Matrix (S4) Histic Epipedon (A2) Sandy Redox (S5)	Coast Prairie Redox (A16) (LRR F, G, H)
Black Histic (A3) — Stripped Matrix (S6).	Dark Surface (S7) (LRR G)
Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1)	High Plains Depressions (F16)
Stratified Layers (A5) (LRR F) Loamy Gleyed Matrix (F2)	(LRR H outside of MLRA 72 & 73)
1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3)	Reduced Vertic (F18)
Depleted Below Dark Surface (A11) Redox Dark Surface (F6)	Red Parent Material (TF2)
Thick Dark Surface (A12) Depleted Dark Surface (F7)	Very Shallow Dark Surface (TF12) Other (Explain in Remarks)
Sandy Mucky Mineral (S1) 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) High Plains Depressions (F16)	³ Indicators of hydrophytic vegetation and
	wetland hydrology must be present,
5 cm·Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H)	unless disturbed or problematic.
Restrictive Layer (if present):	
Type: hand pay	
Depth (inches):	Hydric Soil Present? Yes No
Remarks:	
romans.	
NO No.	
HYDROLOGY	
Wetland Hydrology Indicators:	Character at
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (minimum of two required)
Surface Water (A1) Salt Crust (B11)	Surface Soil Cracks (B6)
High Water Table (A2) Aquatic Invertebrates (B13)	Sparsely Vegetated Concave Surface (B8)
Saturation (A3) Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)
Water Marks (B1) Dry-Season Water Table (C2)	Oxidized Rhizospheres on Living Roots (C3)
Sediment Deposits (B2) Oxidized Rhizospheres on Living R	
Drift Deposits (B3) (where not tilled)	Crayfish Burrows (C8)
Algal Mat or Crust (B4) Presence of Reduced Iron (C4)	Saturation Visible on Aerial Imagery (C9)
Iron Deposits (B5) Thin Muck Surface (C7)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	Frost-Heave Hummocks (D7) (LRR F)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes No Depth (inches):	
Saturation Present? Yes No Depth (inches):	Wetland Hydrology Present? Yes No
(includes capillary fringe)	(one) if available:
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspecti	ions), ii avaliabic.
Remarks:	
4	
None	

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Billings Bypass	City/County:	ellowstone Sampling Date: 8/26/1
Innlicant/Owner: IMP)T		State: N Sampling Point: 165
nvestigator(s): 1. Stragis, G. Rand	Section, Township	Range: ST TIN, RATE
andform (hillstope, terrace, etc.):	Local relief (conca	ave convex, none): Slope (%):
Subregion (LRR): Lat:		Long: Datum:
		NWI classification: R & E M
Soil Map Unit Name:		
Are climatic / hydrologic conditions on the site typical for this time o		(II No, explain in Nemans.)
Are Vegetation, Soil, or Hydrology significa		Are "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology naturally	y problematic? ((If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map show	ring sampling poi	nt locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	Is the Sam	wlod Area
Hydric Soil Present? Yes No	is the oam	etland? Yes No No
Wetland Hydrology Present? Yes No	— Willing a Wi	enanti
Remarks: Cloud plain briends through	low area	
water of w, Aluvial	sediments	of channels.
VEGETATION – Use scientific names of plants.		
Abso		
Tree Stratum (Plot size:) % Co	over Species? Statu	, 1 tantia
1		That Are OBL, FACW, or FAC (excluding FAC-):
2		
3		Total Number of Dominant Species Across All Strata: (B)
4		
Sapling/Shrub Stratum (Plot size:)	= Total Cover .	Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
1		
2.		Prevalence Index worksheet:
3.		
4.		
5		FAC species x 3 =
	= Total Cover	FACU species x 4 =
Herb Stratum (Plot size:	0 V 0	
	· · · · · · · · · · · · · · · · · · ·	Column Totals:(A)(B)
3.		· · · · · · · · · · · · · · · · · · ·
4		Prevalence Index = B/A =
5		Hydrophytic Vegetation Indicators:
6.		1 - Rapid Test for Hydrophytic Vegetation
7		2 - Dominance Test is >50%
8.		3 - Prevalence Index is ≤3.0¹
9.		4 - Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)
10.		Problematic Hydrophytic Vegetation¹ (Explain)
	= Total Cover	¹ Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size:)		be present, unless disturbed or problematic.
1		
2		Hydrophytic Vegetation
% Bare Ground in Herb Stratum	= Total Cover	Present? Yes No No
Remarks:	1	.0.
Remarks: # No flower - in low areas of s	neam chani	NIXA
	*	Section 2000 Contract
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Sampling Point: A	G	3_
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o	U	1	L

SOIL		Sampling Point: 7105
Profile Description: (Describe to the depth ne		confirm the absence of indicators.)
Depth Matrix (inches) Color (moist) % C	Redox Features olor (moist) % Type ^t L	_oc ² Texture Remarks
0-19 25 y 3/2		<u>Samol</u>
•	·	
		•
Type: C=Concentration, D=Depletion, RM=Redu	iced Matrix. CS=Covered or Coated S	and Grains. ² Location: PL=Pore Lining, M=Matrix.
lydric Soil Indicators: (Applicable to all LRRs		Indicators for Problematic Hydric Soils ³ :
Histosol (A1)	Sandy Gleyed Matrix (S4)	1 cm Muck (A9) (LRR I, J)
Histic Epipedon (A2)	Sandy Redox (S5)	Coast Prairie Redox (A16) (LRR F, G, H)
Black Histic (A3)	Stripped Matrix (S6)	Dark Surface (S7) (LRR G)
Hydrogen Sulfide (A4)	Loamy Mucky Mineral (F1)	High Plains Depressions (F16)
Stratified Layers (A5) (LRR F)	Loamy Gleyed Matrix (F2)	(LRR H outside of MLRA 72 & 73)
1 cm Muck (A9) (LRR F, G, H)	Depleted Matrix (F3)	Reduced Vertic (F18)
Depleted Below Dark Surface (A11)	Redox Dark Surface (F6)	Red Parent Material (TF2)
Thick Dark Surface (A12)	Depleted Dark Surface (F7)	Very Shallow Dark Surface (TF12)
Sandy Mucky Mineral (S1)	Redox Depressions (F8) High Plains Depressions (F16)	✓ Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and
2.5 cm Mucky Peat or Peat (S2) (LRR G, H)5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)	wetland hydrology must be present,
5 CH Mucky real of real (55) (LRR F)	(MEION 12 & 13 OF EIGHT)	unless disturbed or problematic.
Restrictive Layer (if present):		
Type:		
Depth (inches):		Hydric Soil Present? Yes/_No
Flood plan, in st	tream channel, rege	tate of
recently deposited n	naterials/flurial:	sediments
hydric by do	hean channel, reger naterials/fluvial:	
YDROLOGY O		
Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; che	ck all that apply)	Secondary Indicators (minimum of two required
Surface Water (A1)	Salt Crust (B11)	Surface Soil Cracks (B6)
High Water Table (A2)	Aquatic Invertebrates (B13)	Sparsely Vegetated Concave Surface (B8)
Saturation (A3)	Hydrogen Sulfide Odor (C1)	✓ Drainage Patterns (B10)
Water Marks (B1)	Dry-Season Water Table (C2)	Oxidized Rhizospheres on Living Roots (C3
/Sediment Deposits (B2)	Oxidized Rhizospheres on Living	Roots (C3) (where tilled)
V Drift Deposits (B3)	(where not tilled)	Crayfish Burrows (C8)
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)	Saturation Visible on Aerial Imagery (C9)
Iron Deposits (B5)	Thin Muck Surface (C7)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	,	Frost-Heave Hummocks (D7) (LRR F)
Field Observations:		
	Depth (inches):	
	Depth (inches):	, · · · · · · · · · · · · · · · · · · ·
	Depth (inches):	Wetland Hydrology Present? Yes \ \ No
(includes capillary fringe)		
Describe Recorded Data (stream gauge, monitorio	ng well, aerial photos, previous inspec	tions), if available:
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Remarks:		•
	*,	

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Billings Bupass	City/County	yella	sampling Date: 8/26/11
Project/Site: VIIII AS 1907	Only/Oddings		State:MT_ Sampling Point: DP AHI
Applicant/Owner: MOTO nvestigator(s): L. Stragis, G. Rance andform (hillstope, terrace-etc.):	Section Town	nship Rang	e: S18, T1N, R27 E
andform (hillstope, terrace, etc.):	Local relief (e	enncave, coi	nvex. none): Slope (%): 0-5
_andform (hillslope, terrace; etc.):	Local rener W	ا	ong: Datum:
			NWI classification: PSS
Soil Map Unit Name:		_	
Are climatic / hydrologic conditions on the site typical for this ti		INO	ormal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology sign		Ale No	ded, explain any answers in Remarks.)
Are Vegetation, Soil, or Hydrology nat	urally problematic?	•	
SUMMARY OF FINDINGS – Attach site map si	nowing sampling	point loc	cations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	Is the	Sampled A	area /
Eludria Cail Drocant2 Yes // No		n a Wetland	? Yes <u>'</u> No
Wetland Hydrology Present?		land	to the east
Wetland Hydrology Present? Remarks: Small Ripanian area - join.	s large with	(0011=1	,
1		•	
		·	
VEGETATION – Use scientific names of plants	s .		
	Absolute Dominant I	Chalua	Dominance Test worksheet:
Tree Stratum (Plot size:) 1. \(\sum \)	% Cover Species?	1=AC	Number of Dominant Species That Are OBL, FACW, or FAC
1. 5 Jacagnus angustitalia 12 mino			(excluding FAC-):
3.			Total Number of Dominant
4			Species Across All Strata:(B)
	= Total Cove		Percent of Dominant Species
Sapling/Shrub Stratum (Plot size:)	20 1	ادم=	That Are OBL, FACW, or FAC: 3 (A/B)
1. Z. angustifolia Rolue			Prevalence Index worksheet:
2			Total % Cover of: Multiply by:
3		I	OBL species x1 =
5			FACW species x 2 = FAC species x 3 =
	20 = Total Cove		FACU species x4 =
Herb Stratum (Plot size:)	15 3d	1	UPL species x 5 =
4 1. 1/4/10 10 10 10 10 10 10 10 10 10 10 10 10 1	-30 °V	FAC	Column Totals: (A) (B)
2. Zquisetum /arvigatum Horistaily 3. Rumex acetosalla Shoopson	5		
4 Carex sp (stiputore)	5 10	LOB)	Prevalence Index = B/A = Hydrophytic Vegetation Indicators:
5. Bromus irumis	35 V	UPL	1 - Rapid Test for Hydrophytic Vegetation
6.			2 - Dominance Test is >50%
7.			3 - Prevalence Index is ≤3.0¹
8.			4 - Morphological Adaptations (Provide supporting
9			data in Remarks or on a separate sheet)
10.			Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size:)	= Total Cove	rer	¹Indicators of hydric soil and wetland hydrology must
1			be present, unless disturbed or problematic.
2.		[Hydrophytic
	= Total Cov	er	Vegetation Present? Yes No
% Bare Ground in Herb Stratum			
Remarks:		-	
	•		
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and the second s		
		4
SOIL		Sampling Point: AH 1
Profile Description: (Describe to the depth ne	eded to document the indicator or co	onfirm the absence of indicators.)
Depth Matrix	Redox Features	
(inches) Color (moist) % Co	olor (moist) % Type ¹ Lo	-
0.5 10 YR 2/2		Clay con foint redox
15-12 10 4R91 50 25	51R3650 C. R/	m clayBan somedepl / Reday
		J

	<u> </u>	
•		
¹Type: C=Concentration, D=Depletion, RM=Redu	used Matrix CS-Covered or Coated Sa	and Grains. ² Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to all LRRs		Indicators for Problematic Hydric Soils ³ :
Histosol (A1)	Sandy Gleyed Matrix (S4)	1 cm Muck (A9) (LRR I, J)
Histic Epipedon (A2)	Sandy Redox (S5)	Coast Prairie Redox (A16) (LRR F, G, H)
Black Histic (A3)	Stripped Matrix (S6)	Dark Surface (S7) (LRR G)
Hydrogen Sulfide (A4)	Loamy Mucky Mineral (F1)	High Plains Depressions (F16)
Stratified Layers (A5) (LRR F)	Loamy Gleyed Matrix (F2)	(LRR H outside of MLRA 72 & 73)
1 cm Muck (A9) (LRR F, G, H)	✓ Depleted Matrix (F3) — Redox Dark Surface (F6)	Reduced Vertic (F18) Red Parent Material (TF2)
Depleted Below Dark Surface (A11) Thick Dark Surface (A12)	Redox Dark Surface (F0)	Very Shallow Dark Surface (TF12)
Sandy Mucky Mineral (S1)	Redox Depressions (F8)	Other (Explain in Remarks)
2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	High Plains Depressions (F16)	³ Indicators of hydrophytic vegetation and
5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)	wetland hydrology must be present,
		unless disturbed or problematic.
Restrictive Layer (if present):		
Type:		
Depth (inches):		Hydric Soil Present? Yes No
Remarks: brightout end yet		
3		
HYDROLOGY		
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; che	ok all that apply)	Secondary Indicators (minimum of two required)
		Surface Soil Cracks (B6)
Surface Water (A1)	Salt Crust (B11) Aquatic Invertebrates (B13)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2)	Aquatic invertebrates (D13) Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)
Saturation (A3) Water Marks (B1)	Hydrogen Sanide Odor (C1) Dry-Season Water Table (C2)	Oxidized Rhizospheres on Living Roots (C3)
	✓ Oxidized Rhizospheres on Living R	
Drift Deposits (B3)	(where not tilled)	Crayfish Burrows (C8)
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)	Saturation Visible on Aerial Imagery (C9)
Iron Deposits (B5)	Thin Muck Surface (C7)	Geomorphic Position (D2)
• · · · · · · · · · · · · · · · · · · ·	Other (Explain in Remarks)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	· · ·	Frost-Heave Hummocks (D7) (LRR F)
Field Observations:		
1		
	✓ Depth (inches):	
1		Wetland Hydrology Present? Yes V No

flows east to larger wetland

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

(includes capillary fringe)

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Billings	Bupass	Cit	y/County:	owstone	Sampling Date: 8 26/1 Sampling Point: DPAH 2
Investigator(s):	15 G. Ran	A Se	ection, Township, Ra	nge: <u>518,</u> T	IN, RATE
investigator(s)	1.5	10	ocal relief (concave.)	convex, none):	Slope (%) 2-2
Landform (nillslope, terrace) etc.).		l at:	Segue :	Long:	Datum:
				NWI classific	cation: upland
Soil Map Unit Name:		<u> </u>			
Are climatic / hydrologic conditions				(ii fio, explain in f	No.
Are Vegetation, Soil					present? Yes No
Are Vegetation, Soil	, or Hydrology	_ naturally proble	ematic? (If ne	eeded, explain any answe	ers in Remarks.)
SUMMARY OF FINDINGS	- Attach site ma	p showing s	ampling point l	ocations, transects	s, important features, etc.
Hydrophytic Vegetation Present	? Yes	No.		I Aa	
Hydric Soil Present?	Yes		is the Sampled within a Wetlan		No
Wetland Hydrology Present?	Yes		Wittill a Wellar	100	
Remarks: Agr. field					
1191.112		•			
VEGETATION – Use scien	ntific names of n	ants.			
VEGETATION - OSE SCIE	Tento numeo oi pi		Dominant Indicator	Dominance Test wor	ksheet:
Tree Stratum (Plot size:)	% Cover	Species? Status	Number of Dominant S	
1				That Are OBL, FACW, (excluding FAC-):	or FAC
2					
3				Total Number of Domi Species Across All Str	
4				[''	
Sapling/Shrub Stratum (Rlot si	(70))		Total Cover .	Percent of Dominant S That Are OBL, FACW	
Saping/Situb Stratum (Root st.	20				\sim
2.				Prevalence Index wo	
3.				}	Multiply by:
4.					x 1 = x 2 =
5					x3=
,		=	Total Cover	1	×4=
Herb Stratum (Plot size:)	1/77)	UPL	I .	x5 ≈
1. Bromus ironm	118			· 1	(A) (B)
2					•
3					x = B/A =
5.				Hydrophytic Vegetat	
6.				1 - Rapid Test for 2 - Dominance Te	Hydrophytic Vegetation
7.				3 - Prevalence In	
8				3 - Plevalence in	Adaptations¹ (Provide supporting
9				data in Remar	ks or on a separate sneet)
10				Problematic Hydf	ophytic Vegetation ¹ (Explain)
		=	Total Cover		oil and wetland hydrology must
Woody Vine Stratum (Plot size				be present, unless dis	sturbed or problematic.
1		i.		Hydrophytic	
2			= Total Cover	Vagatation	
% Bare Ground in Herb Stratur	m			Present? Y	'es No
Remarks:					
		•			
				<u></u>	Orant Dialage Various 2.0
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SOIL		Sampling Point: AH2
Profile Description: (Describe to the depth ne	eded to document the indicator or confir	m the absence of indicators.)
Depth Matrix	Redox Features	_
(inches) Color (moist) % Co	olor (moist) % Type ¹ Loc ²	Texture Remarks
0-5 10 y R 3/2		
7	~	
		
· · · · · · · · · · · · · · · · · · ·		
¹Type: C=Concentration, D=Depletion, RM=Redu	used Matrix, CS=Covered or Coated Sand C	Grains. ² Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to all LRRs		Indicators for Problematic Hydric Soils ³ :
Histosol (A1)	Sandy Gleyed Matrix (S4)	1 cm Muck (A9) (LRR I, J)
Histic Epipedon (A2)	Sandy Redox (S5)	Coast Prairie Redox (A16) (LRR F, G, H)
Black Histic (A3)	Stripped Matrix (S6)	Dark Surface (S7) (LRR G)
Hydrogen Sulfide (A4)	Loamy Mucky Mineral (F1)	High Plains Depressions (F16)
Stratified Layers (A5) (LRR F)	Loamy Gleyed Matrix (F2)	(LRR H outside of MLRA 72 & 73)
1 cm Muck (A9) (LRR F, G, H)	Depleted Matrix (F3)	Reduced Vertic (F18)
Depleted Below Dark Surface (A11)	Redox Dark Surface (F6)	Red Parent Material (TF2)
Thick Dark Surface (A12)	Depleted Dark Surface (F7)	Very Shallow Dark Surface (TF12)
Sandy Mucky Mineral (S1)	Redox Depressions (F8)	Other (Explain in Remarks)
2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	High Plains Depressions (F16)	³ Indicators of hydrophytic vegetation and
5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)	wetland hydrology must be present,
		unless disturbed or problematic.
Restrictive Layer (if present):		
1		
Type: <u>hand pam</u>		
Type: hand pan Depth (inches): 5		Hydric Soil Present? Yes No
, , , , , , , , , , , , , , , , , , ,		Hydric Soil Present? Yes No
Depth (inches):		Hydric Soil Present? Yes No
Depth (inches): 5		Hydric Soil Present? Yes No
Depth (inches): 5 Remarks: Wo we HYDROLOGY		Hydric Soil Present? Yes No
Depth (inches):		
Depth (inches):		Secondary Indicators (minimum of two required
Depth (inches):	Salt Crust (B11)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6)
Depth (inches):	Salt Crust (B11) Aquatic Invertebrates (B13)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8)
Depth (inches):	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6)
Depth (inches):	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C
Depth (inches):	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C
Depth (inches):	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C6) (C3) (where tilled) Crayfish Burrows (C8)
Depth (inches):	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C
Depth (inches):	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (where not tilled)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C) (C3) (where tilled) Crayfish Burrows (C8)
Depth (inches):	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (where not tilled) Presence of Reduced Iron (C4)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C) (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9)
Depth (inches):	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C) ((C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
Pepth (inches):	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5)
Depth (inches):	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5)
Depth (inches):	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5)
Pepth (inches):	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): Depth (inches):	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5) Frost-Heave Hummocks (D7) (LRR F)
Pepth (inches):	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): Depth (inches):	Secondary Indicators (minimum of two require Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5)

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region City/County: <u>Jellowstone</u> Sampling Date: 8 Project/Site: Billings Bupass State: ______ Sampling Point: ____ Applicant/Owner: MC Investigator(s): 1. Stragis O. Rayd Section, Township, Range: 317, TW, R27E Local relie (concave, convex, none): Slope (%): _____ Landform (Milslope, terrace, etc.) _____ Lat: ______ Long: _____ Subregion (LRR): __ NWI classification: uplama Soil Map Unit Name: ____ Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.) Are "Normal Circumstances" present? Yes ______No ____ Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? (If needed, explain any answers in Remarks.) Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Is the Sampled Area Yes ____ No ___ Yes ____ No ___ Hydric Soil Present? within a Wetland? Yes _____ No _/ Wetland Hydrology Present? Remarks: RR ditch VEGETATION – Use scientific names of plants. **Dominance Test worksheet:** Absolute Dominant Indicator % Cover Species? Status Tree Stratum (Plot size: _____) **Number of Dominant Species** That Are OBL, FACW, or FAC (excluding FAC-): Total Number of Dominant Species Across All Strata: ____ = Total Cover . Percent of Dominant Species Sapling/Shrub Stratum (Plot size: _____) That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species _____ x1 = ____ FACW species _____ x 2 = ____ FAC species ____ x 3 = ____ ____ = Total Cover FACU species _____ x 4 = ____ Herb Stratum (Plot size: ____ 1. Phalakis arundinacea 1001 V UPL species _____ x 5 = ____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _ Hydrophytic Vegetation Indicators: √ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) ____ = Total Cover ¹Indicators of hydric soil and wetland hydrology must Woody Vine Stratum (Plot size: _____) be present, unless disturbed or problematic. Hydrophytic Vegetation ____ = Total Cover Present? % Bare Ground in Herb Stratum _____ Remarks:

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•	r	1	1	

Sampling Point: AT 1

Profile Description: (Describe to the dept	needed to document the	indicator o	r confirm	the absence of in	dicators.)
Depth <u>Matrix</u>	Redox Feature	es	······································		<u>.</u> .
(inches) Color (moist) %	Color (moist) %	Type'	Loc*	Texture	Remarks
1-9 10 YR 2/1				\	
9-12 10 YP4/3			-		
,					
¹ Type: C=Concentration, D=Depletion, RM=F	Reduced Matrix, CS=Covere	ed or Coated	Sand Gr	ains. ² Location	: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to all L					roblematic Hydric Soils³:
Histosol (A1)	Sandy Gleyed M				(A9) (LRR I, J)
Histic Epipedon (A2)	Sandy Redox (S				e Redox (A16) (LRR F, G, H)
Black Histic (A3)	Stripped Matrix (e (S7): (LRR G)
Hydrogen Sulfide (A4)	Loamy Mucky Mi	,		***********	Depressions (F16)
Stratified Layers (A5) (LRR F)	Loamy Gleyed M			-	outside of MLRA 72 & 73)
1 cm Muck (A9) (LRR F, G, H)	Depleted Matrix (Reduced Ve	•
Depleted Below Dark Surface (A11)	Redox Dark Surf				Material (TF2)
Thick Dark Surface (A12)	Depleted Dark S				w Dark Surface (TF12)
Sandy Mucky Mineral (S1)	Redox Depression				ain in Remarks)
2.5 cm Mucky Peat or Peat (S2) (LRR G,			5)		drophytic vegetation and
5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 &			-	rology must be present,
	(•		rbed or problematic.
Restrictive Layer (if present):				<u> </u>	
Type:					. /
Depth (inches):	•			Hydric Soil Pres	ent? Yes No
	redox feature	. 4			
Tomano.	reduce feeling	<i>\(\omega\)</i>			
	· · · · · · · · · · · · · · · · · · ·			······································	
HYDROLOGY					
Wetland Hydrology Indicators:					
Primary Indicators (minimum of one required;	check all that apply)		* -	Secondary Inc	licators (minimum of two required)
Surface Water (A1)	Salt Crust (B11)			Surface S	oil Cracks (B6)
High Water Table (A2)	Aquatic Invertebrate	es (B13)		Sparsely	Vegetated Concave Surface (B8)
Saturation (A3)	Hydrogen Sulfide O			Drainage	Patterns (B10)
Water Marks (B1)	Dry-Season Water				Rhizospheres on Living Roots (C3)
Sediment Deposits (B2)	Oxidized Rhizosphe	, ,	Roots (
Drift Deposits (B3)	(where not tilled)		, (,	Burrows (C8)
	Presence of Reduce				Nisible on Aerial Imagery (C9)
Algal Mat or Crust (B4)				_ _	hic Position (D2)
Iron Deposits (B5)	Thin Muck Surface				tral Test (D5)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Re	emarks)		·	
Water-Stained Leaves (B9)				rost-Hea	ve Hummocks (D7) (LRR F)
Field Observations:					
	Depth (inches):		i		
Water Table Present? Yes No	Depth (inches):				
Saturation Present? Yes No	Depth (inches):		Wetla	and Hydrology Pre	sent? Yes No
(includes capillary fringe)					
Describe Recorded Data (stream gauge, mon	toring well, aerial photos, pr	revious inspe	ections), i	ir available:	
Remarks:					

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Billings Bupass	City/County:	Vellowstone Sampling!	Date: 08 26/11
· Storais G Rand	Section Towns	ship Range:	
Landform (hillslope terrace, etc.):	Local relief (co	proave gonvex, none):	Slope (%): <u>ク</u> -ろ
Subregion (LRR): La	Lood! Tolla! (00	l ong:	Datum:
		NWI classification: PS	mintland
Soil Map Unit Name:			
Are climatic / hydrologic conditions on the site typical for this time		Are "Normal Circumstances" present? Y	as / No
Are Vegetation, Soil, or Hydrology signific			
Are Vegetation, Soil, or Hydrology natura		(If needed, explain any answers in Remar	
SUMMARY OF FINDINGS - Attach site map sho	wing sampling p	point locations, transects, importa	ant features, etc.
Hydrophytic Vegetation Present? Yes No	in the S	Sampled Area	:
Hydric Soil Present? Yes No		a Wetland? Yes No	
Wetland Hydrology Present? Yes No			
Remarks: RR ditch north of that	clcs		
	1	. l. L	
Deproblican-no surface	out 19 + C	<u>n inter</u>	
VEGETATION - Use scientific names of plants.	solute Dominant In	dicator Dominance Test worksheet:	
Tree Stratum (Plot size:) %(Cover Species? S	4.04.0.	
1.		That Are OBL, FACW, or FAC	2 (A)
2		(excluding FAC-):	
3.		Total Number of Dominant Species Across All Strata:	3 (B)
4		 '	(2)
Sapling/Shrub Stratum (Plot size:)	= Total Cover	Percent of Dominant Species That Are OBL, FACW, or FAC:	66 (A/B)
1		Prevalence Index worksheet:	
2.		Total % Cover of:	Multiply by:
3.		OBL species x1	i i
4		FACW species x2	
5		FAC species x 3	
Link Objectives /Diet eiger	= Total Cover	FACU species ×4	
Herb Stratum (Plot size:) 1. What a latitalice	30 1/ (OBV UPL speciesx5	=
2 Chroium anverse C. Mid-R	20 / 1	FACV Column Totals: (A)	(B)
3. Agrostis albon Red top 5	5 / 1	FACW Prevalence Index = B/A = _	
4 OURSCHUT	5	Hydrophytic Vegetation Indicate	
5. Conyza ranaders house weed	10	1 - Rapid Test for Hydrophytic	
6.		2 - Dominance Test is >50%	3 togotanon
7.		3 - Prevalence Index is ≤3.0¹	
8.		4 - Morphological Adaptations	s1 (Provide supporting
9		data in Remarks or on a s	eparate sheet)
10		Problematic Hydrophytic Veg	etation ¹ (Explain)
Woody Vine Stratum (Plot size:)	95 = Total Cover	Indicators of hydric soil and wella	and hydrology must
1		be present, unless disturbed or pr	oblematic.
2		Hydrophytic	
	= Total Cover	Vegetation Present? Yes	No
% Bare Ground in Herb Stratum		Flesent: 163_D	
Remarks:			
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c	^	ı	
	w	1	

Sampling Point: A 1

Profile Desc	ription: (Describe t	o the depth	needed to docur	nent the i	ndicator	or confir	m the absence of indica	ators.)
Depth	,Matrix			x Features				
(inches)	Color (moist)	%	Color (moist)		Type ¹	Loc ²	Texture	Remarks
8-4	10 YR 2/1						sandy loan	<u>~</u>
4-52	2,5 y 4 2	25	7546	15	C	M	loanny sond de	3/Rod
9-11	25 y 4/2	72	704/6	25		1/1/1	James Sond	7.
6-10							1 THE STATE OF	
							·	
							, <u> </u>	
			,					
IT-was CaC	oncentration, D=Deple		Paduaad Matrix CS	S=Covered	or Coate	d Sand G	trains 21 ocation: Pl	_=Pore Lining, M=Matrix.
Hydric Soil	Indicators: (Applica	ble to all L	RRs. unless other	wise note	ed.)	a Garia C	Indicators for Prob	lematic Hydric Soils ³ :
1 -		DIC TO GII L		Sleyed Ma			1 cm Muck (A9)	- 4
Histosol	oipedon (A2)			Redox (S5)				edox (A16) (LRR F, G, H)
	istic (A3)			Matrix (S			Dark Surface (S	
1	en Sulfide (A4)			Mucky Min			High Plains Dep	
1 '	d Layers (A5) (LRR F))		Gleyed Ma			(LRR H outs	ide of MLRA 72 & 73)
1 cm Mu	ick (A9) (LRR F, G, H)	Deplete	d Matrix (F	3)		Reduced Vertic	
	d Below Dark Surface	(A11)		Dark Surfa	- •		Red Parent Mat	
. —	ark Surface (A12)			d Dark Su			•	ark Surface (TF12)
	fucky Mineral (S1)	· 0 / 4 DD 0		Depression		iė	Other (Explain i	n Remarks) hytic vegetation and
	Mucky Peat or Peat (S		. — -	ains Depre RA 72 & 7				gy must be present,
5 cm IVIU	icky Peat or Peat (S3)	(LKK F)	(IME	RA 12 G 1	3 01 LKK	ri <i>j</i>	unless disturbed	
Restrictive	Layer (if present):						1	
Type:) ([).							
	ches):						Hydric Soil Present	? Yes No
Remarks:				· · · · · · · · · · · · · · · · · · ·				``.
	e e e e e e e e e e e e e e e e e e e							
HYDROLO								
l -	drology indicators:						C	tous (malainerum af from as mortissed)
	cators (minimum of on	e required;				······		tors (minimum of two required)
	Water (A1)		Salt Crust		(5.46)		Surface Soil (
· -	iter Table (A2)		Aquatic Inv			-		etated Concave Surface (B8)
Saturation			Hydrogen				Orainage Pat	
	larks (B1)		Dry-Seaso			D		rospheres on Living Roots (C3)
	nt Deposits (B2)		Oxidized R	,	es on Livi	ng Koots	•	•
	posits (B3)		•	not tilled)	مان سال		Crayfish Burr	
•	at or Crust (B4)		Presence)	_ /	sible on Aerial Imagery (C9)
	osits (B5)		Thin Muck					
	on Visible on Aerial In	nagery (B7)	Other (Exp	nam in Kei	пагкѕ)		FAC-Neutral	
	tained Leaves (B9)					····	Frost-Heave	Hummocks (D7) (LRR F)
Field Obser			1. m =					
Surface Wat			Depth (inc					
Water Table	Present? Ye	s No	Depth (inc	ches):	1			/
Saturation P			Depth (inc	ches):	1411	_ Wet	land Hydrology Presen	t? Yes No
(includes car	oillary fringe) corded Data (stream (רמת פחוובר	toring well serial r	nhotos nra	vious iner	ections)	if available	<u> </u>
Describe Ke	oorded Data (Stream (gauye, 1110N	nomy wen, aenar p	words' hie	·vious IIISļ	, poudita)	н атанамо.	
Damester								
Remarks:	flows w	ont to	rusand P	cor	ine cto	ı	•	
	Knas an	wast t	ar susual water from the	1	•			
İ								

WETLAND DETERMINATION DATA FORM – Great Plains Region

0.11	0:1-10	Walla	wstane Sampling Date: 8/26/1
	City/C	ounty:O&\IO	State: MT Sampling Point: AK
Applicant/Owner: MoT			
Investigator(s): L. Stragis, G. Rana	7 Section	on, Township, Ran	ge: 51-11 (%): 6-2
Landform (hillslope, terrace, etc.):	Loca	I relief (concave, c	onvex, fone): Slope (%):
Subregion (LRR):	Lat:	<u></u>	Long: Datum:
Soil Map Unit Name:			NWI classification: PEM
Are climatic / hydrologic conditions on the site typical for t	his time of year? Y	es No No	(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology			Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology			eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site ma	p showing san	npling point lo	ocations, transects, important features, etc.
	No		
Hydrophytic Vegetation Present? Hydric Soil Present? Yes Yes Yes		Is the Sampled	
	No	within a Wetlan	(a) 165 <u>v</u> 110
Remarks: Wetland in gravel	oit nea	VILLE	nd (1) -small
Open not include New	'arabel Di	t mond t	tinge area
no upland plat	-> citarie	MY PIT	depression
VEGETATION - Use scientific names of pla		•	•
	Absolute Dor	minant Indicator	Dominance Test worksheet:
1. Elaraganthus angustrfola/Rolio	% Cover Spe	Status	Number of Dominant Species That Are OBL, FACW, or FAC
1. Elaeaganthus angustatola/K.Olio	<u>f </u>	I M	(A)
2			Total Number of Dominant
3			Species Across All Strata: (B)
4	2 <i>0_=</i> To	tal Cover.	Percent of Dominant Species
Sapling/Shrub Stratum (Plot size:)			That Are OBL, FACW, or FAC: (A/B)
1			Prevalence Index worksheet:
2			Total % Cover of: Multiply by:
3.			OBL species x 1 =
4.			FACW species x 2 =
5		tol Cover	FAC species x 3 =
Herb Stratum (Plot size:)		tal Cover	FACU species x 4 =
1. Typha latifolia		1 FACW	UPL species x 5 =
2			Column Totals: (A) (B)
3.			Prevalence Index = B/A =
4.			Hydrophytic Vegetation Indicators:
5.			1 - Rapid Test for Hydrophytic Vegetation
6.			1/2 - Dominance Test is >50%
7			3 - Prevalence Index is ≤3.01
8.			4 - Morphological Adaptations (Provide supporting
9			data in Remarks or on a separate sheet)
10.			Problematic Hydrophytic Vegetation ¹ (Explain)
NAV. A. Vive Stantone (Diet size)	_/ <u>/57)</u> = To	otal Cover	¹ Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size:) 1			be present, unless disturbed or problematic.
2.			Hydrophytic
Z	= T	otal Cover	Vegetation
% Bare Ground in Herb Stratum			Present? Yes V No No
Remarks:			
		į	
N 1 4 00	·		
cliff sura Dla			Great Plains - Version 2.0
US Army Corps of Engineers			Ologi I Idillo - Fotolosi E.e

Sampling Point: Ak1

	rìx	Redox	Features				
(inches) Color (mois	t) % C	olor (moist)	%	Type ¹	Loc ²	Texture	Remarks
		······································			<u>.</u>		
		***************************************				-	
							
<u> </u>							
							
	, , , , , , , , , , , , , , , , , , ,						
Type: C=Concentration, D=	Depletion, RM=Red	uced Matrix. CS=	Covered of	or Coated	Sand Gra	ains. ² Locat	ion: PL=Pore Lining, M=Matrix.
lydric Soil Indicators: (Ap							or Problematic Hydric Soils³:
Histosol (A1)		Sandy Gle	eyed Matri	ix (S4)		1 cm Mu	ck (A9) (LRR I, J)
Histic Epipedon (A2)		Sandy Re					airie Redox (A16) (LRR F, G, H)
Black Histic (A3)		Stripped N					face (S7) (LRR G)
Hydrogen Sulfide (A4)		Loamy Mi					ns Depressions (F16)
Stratified Layers (A5) (L		Loamy Gl				,	H outside of MLRA 72 & 73)
1 cm Muck (A9) (LRR F,		Depleted				Reduced	, ,
Depleted Below Dark Su Thick Dark Surface (A12		Redox Da				•	ent Material (TF2) illow Dark Surface (TF12)
Sandy Mucky Mineral (S	•	Depleted				-	(plain in Remarks)
2.5 cm Mucky Peat or P		High Plair	•		6)		hydrophytic vegetation and
5 cm Mucky Peat or Pea			72 & 73				ydrology must be present,
_ · ·		,			•		sturbed or problematic.
Restrictive Layer (if presen	t):						
Туре:		•					
Depth (inches):		•				Hydric Soil Pi	resent? Yes No
Remarks: Soul pit	not dug	water	gedg	eog	cat	mit the	n fill bank 8'up
has t	y drologi	7.1	0				
YDROLOGY	•						
Vetland Hydrology Indicate	ors:		·				
rimary Indicators (minimum	of one required; che	ck all that apply)			٠,	Secondary	Indicators (minimum of two required)
Surface Water (A1)		Salt Crust (B	11)				e Soil Cracks (B6)
// Juliace Water (A I)	•		•	D42\		***********	
		Aquatic Inver	leniales (D(3)		Sparse	ly Vegetated Concave Surface (B8)
⊬ High Water Table (A2)	•	Aquatic Inver	-	-			ly Vegetated Concave Surface (B8)
High Water Table (A2) Saturation (A3)		Hydrogen Su	lfide Odor	(C1)		Draina	ge Patterns (B10)
High Water Table (A2) Saturation (A3) Water Marks (B1)		Hydrogen Su Dry-Season \	lfide Odor Water Tab	(C1) de (C2)	g Roots (C	Draina Oxidize	ge Patterns (B10)
High Water Table (A2) Saturation (A3)		Hydrogen Su	lfide Odor Water Tab zospheres	(C1) de (C2)	g Roots (C	Draina Oxidize C3) (whe	ge Patterns (B10) ad Rhizospheres on Líving Roots (C3
High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	,	Hydrogen Su Dry-Season \ Oxidized Rhi	lfide Odor Water Tab zospheres t tilled)	(C1) le (C2) on Livin	g Roots (C	Draina Oxidize C3) (whe Crayfis	ge Patterns (B10) ed Rhizospheres on Living Roots (C3 re tilled)
High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)		Hydrogen Su Dry-Season V Oxidized Rhi (where not	lfide Odor Water Tab zospheres t tilled) Reduced I	(C1) le (C2) on Livin ron (C4)	g Roots (C	Draina Draina Oxidize (Whe Crayfis Satura	ge Patterns (B10) ed Rhizospheres on Living Roots (C3 re tilled) h Burrows (C8)
High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	rial Imagery (B7)	Hydrogen Su Dry-Season Oxidized Rhi (where not Presence of	ilfide Odor Water Tab zospheres t tilled) Reduced I urface (C7	(C1) sle (C2) on Livin ron (C4)	g Roots (C	Draina Oxidize (Whee Crayfis Satura Geome	ge Patterns (B10) ed Rhizospheres on Líving Roots (C3 re tilled) h Burrows (C8) ion Visible on Aerial Imagery (C9)
High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)		Hydrogen Su Dry-Season Oxidized Rhi (where not Presence of Thin Muck St	ilfide Odor Water Tab zospheres t tilled) Reduced I urface (C7	(C1) sle (C2) on Livin ron (C4)	g Roots (C	Draina Draina Oxidize (3) (whe Crayfis Satura Geome	ge Patterns (B10) ed Rhizospheres on Living Roots (C3) re tilled) h Burrows (C8) cion Visible on Aerial Imagery (C9) orphic Position (D2)
High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aei Water-Stained Leaves (E		Hydrogen Su Dry-Season Oxidized Rhi (where not Presence of Thin Muck St	ilfide Odor Water Tab zospheres t tilled) Reduced I urface (C7	(C1) sle (C2) on Livin ron (C4)	g Roots (C	Draina Draina Oxidize (3) (whe Crayfis Satura Geome	ge Patterns (B10) ed Rhizospheres on Living Roots (C3) re tilled) h Burrows (C8) tion Visible on Aerial Imagery (C9) orphic Position (D2) eutral Test (D5)
High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aei Water-Stained Leaves (E		Hydrogen Su Dry-Season Oxidized Rhi (where not Presence of Thin Muck St Other (Explain	lfide Odor Water Tab zospheres tilled) Reduced I urface (C7 n in Rema	(C1) sle (C2) on Livin ron (C4)	g Roots (C	Draina Draina Oxidize (3) (whe Crayfis Satura Geome	ge Patterns (B10) ed Rhizospheres on Living Roots (C3) re tilled) h Burrows (C8) tion Visible on Aerial Imagery (C9) orphic Position (D2) eutral Test (D5)
High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aei	(9)	Hydrogen Su Dry-Season V Oxidized Rhi (where not Presence of I Thin Muck St Other (Explai	Ifide Odor Water Tab zospheres tilled) Reduced I urface (C7 n in Rema	(C1) sle (C2) on Livin ron (C4)	g Roots (C	Draina Draina Oxidize (3) (whe Crayfis Satura Geome	ge Patterns (B10) ed Rhizospheres on Living Roots (C3) re tilled) h Burrows (C8) tion Visible on Aerial Imagery (C9) orphic Position (D2) eutral Test (D5)
High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aei Water-Stained Leaves (Bild Observations: Surface Water Present?	Yes No Yes No	Hydrogen Su Dry-Season Oxidized Rhi (where not Presence of Thin Muck Su Other (Explain	Iffide Odor Water Tab zospheres i tilled) Reduced I urface (C7 n in Rema	(C1) sle (C2) on Livin ron (C4)		Draina Oxidize Oxidize Cayfis Crayfis Satura Geome FAC-N Frost-h	ge Patterns (B10) ed Rhizospheres on Living Roots (C3) re tilled) h Burrows (C8) tion Visible on Aerial Imagery (C9) orphic Position (D2) eutral Test (D5)
High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Ae Water-Stained Leaves (Ba) Water-Stained Leaves (Ba) Water Present? Water Table Present?	Yes No Yes No Yes No	Hydrogen Su Dry-Season V Oxidized Rhi (where not Presence of i Thin Muck St Other (Explai Depth (inche	lfide Odor Water Tab zospheres tilled) Reduced I urface (C7 n in Rema	(C1) sle (C2) s on Livin ron (C4)) arks)	Wetlar	Draina Oxidize Oxidize Crayfis Satura Geome FAC-N Frost-H	ge Patterns (B10) ed Rhizospheres on Living Roots (C3 re tilled) h Burrows (C8) cion Visible on Aerial Imagery (C9) orphic Position (D2) eutral Test (D5) leave Hummocks (D7) (LRR F)
High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aei Water-Stained Leaves (Bield Observations: urface Water Present? Vater Table Present? aturation Present? includes capillary fringe) escribe Recorded Data (street	Yes No Yes No Yes No	Hydrogen Su Dry-Season V Oxidized Rhi (where not Presence of i Thin Muck St Other (Explai Depth (inche	lfide Odor Water Tab zospheres tilled) Reduced I urface (C7 n in Rema	(C1) sle (C2) s on Livin ron (C4)) arks)	Wetlar	Draina Oxidize Oxidize Crayfis Satura Geome FAC-N Frost-H	ge Patterns (B10) ed Rhizospheres on Living Roots (C3 re tilled) h Burrows (C8) cion Visible on Aerial Imagery (C9) orphic Position (D2) eutral Test (D5) leave Hummocks (D7) (LRR F)
High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aei Water-Stained Leaves (Bield Observations: urface Water Present? Vater Table Present? aturation Present? Includes capillary fringe)	Yes No Yes No Yes No	Hydrogen Su Dry-Season V Oxidized Rhi (where not Presence of i Thin Muck St Other (Explai Depth (inche	lfide Odor Water Tab zospheres tilled) Reduced I urface (C7 n in Rema	(C1) sle (C2) s on Livin ron (C4)) arks)	Wetlar	Draina Oxidize Oxidize Crayfis Satura Geome FAC-N Frost-H	ge Patterns (B10) ed Rhizospheres on Living Roots (C3 re tilled) h Burrows (C8) cion Visible on Aerial Imagery (C9) orphic Position (D2) eutral Test (D5) leave Hummocks (D7) (LRR F)

WETLAND DETERMINATION DATA FORM	- Great Plains Region
Project/Site: Bylass City/County: 4e	TOW SOOR Sampling Date: 7/19/1
AA 1 1 (2-4)	State: M 7 Sampling Point: DV-C-
Application owner.	ange: SIL, TIN, RAGE
72	, convex, none): CONCAYQ Slope (%):
and the control of th	The state of the s
Subregion (LRR): Lat:	Long:NWI classification:
Soil Map Unit Name:	1 3 - 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Are climatic / hydrologic conditions on the site typical for this time of year? YesNo	(If no, explain in Remarks.)
7 (10 408) ota (101) 1 4 4 1 1	"Normal Circumstances" present? YesNo
Are vegetation	needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sampling point	locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No Is the Sample Hydric Soil Present? Yes No Within a Wetter	d Area
Hydric Soil Present? Yes No Within a Wetland Hydrology Present? No	and? Yes No
	$M_{\rm col} = 10^{-10}$
Bage of cana)	I not present only cabble
Lange levels along each side at ca	cal 6-8 wide
	GOOD HER TO AND THE CONTROL OF THE C
VEGETATION – Use scientific names of plants. Absolute Dominant Indicator	Dominance Test worksheet: Santa panta years
Tree Stratum (Plot size:) Absolute Dominant indicator % Cover Species? Status	The second secon
1	That Are OBL, FACW, or FAC
2	(excluding FAC-):
3,	. Total Number of Dominant Species Across All Strata: (B)
4	•
Sapling/Shrub Stratum (Plot size:)	Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
1	Prevalence Index worksheet:
2	Total % Cover of: Multiply by:
3	OBL species x1=
4	FACW species x2=
5 = Total Cover	FAC species X3=
Herb Stratum, (Plot size;	FACU species x4=
1. Khal aga 50 V TREW	UPL species x5.=
2. Vikingrange 40 V OBL	Column Totals: (A) (B)
3. Mellow andahour lower 10	Prevalence Index = B/A =
4	Hydrophytic Vegetation Indicators:
5. State of the second	1 - Rapid Test for Hydrophytic Vegetation
	2 - Dominance Test is >50%
The second secon	3 - Prevalence Index is ≤3.0 ¹
8:	4 - Morphological Adaptations (Provide supporting
9	data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain)
10 = Total Cover	A STATE OF THE STA
Woody Vine Stratum (Plot size:)	¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2	Hydrophytic
= Total Cover	Vegetation Present? Yes No No
% Bare Ground in Herb Stratum	Present? Yes No
Remarks:	•

Profile Description: (Describe to the dep			dicator	or confirn	n the absence	of Indicators.)
Depth Matrix	······	Features		1 2	T	Bananalan Arberta
(inches) Color (moist) %	Color (moist)	<u>%</u> _	ype	Loc²	Texture	Remarks
			·····		•	
	· ·	· ·				The state of the s
	44,55			:::.		***
A STATE OF THE STREET	Face					Test part of the Control
255 2 75 27 75 27						
,						
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er er er er er er er er er er er er er e	magnetic state to			A CAR	1920	4. Supplied to \$4.00 per 1990.
ming and resistance to exchange the graphs of	+ 10 (380 M) (31 m)			egister f	: :	
¹Type: C=Concentration, D=Depletion, RM=		Covered o	or Coate	d Sand Gr	ains. ² Loc	ation: PL=Pore Lining, M=Matrix.
Hydric Soll Indicators: (Applicable to all I	RRs, unless otherw	vise noted	l.)	:		for Problematic Hydric Solls ³ :
Histosol (A1)	Sandy Gl	eyed Matri	ix (S4)	'.	😘 1 cm M	luck (A9) (LRR I, J)
Histic Epipedon (A2)	Sandy Re	•				Prairie Redox (A16) (LRR F, G, H)
Black Histic (A3)	Stripped I	Matrix (S6))			urface (S7) (LRR G)
Hydrogen Sulfide (A4)	Loamy Mi	ucky Miner	rai (F1)		High Pl	ains Depressions (F16)
Stratified Layers (A5) (LRR F)	Loamy Gi	eyed Matri	ix (F2)		LRI	R H outside of MLRA 72 & 73)
1 cm Muck (A9) (LRR F, G, H)		Matrix (F3)			Reduce	ed Vertic (F18)
Depleted Below Dark Surface (A11)		irk Surface		٠,		rent Material (TF2)
Thick Dark Surface (A12)		Dark Surfa			•	nallow Dark Surface (TF12)
Sandy Mucky Mineral (S1)		pressions	.,			Explain in Remarks)
2.5 cm Mucky Peat or Peat (S2) (LRR G						of hydrophylic vegetation and
5 cm Mucky Peat or Peat (S3) (LRR F)	(MLR/	A 72 & 73	Of LKK	H)		hydrology must be present,
Restrictive Layer (if present):	·	· · · · · · · · · · · · · · · · · · ·			unitess t	disturbed or problematic.
Type:	<u> </u>					
Depth (inches):		er de Ma			Hydric Soil F	Present? Yes No
Remarks: NO 501 - C	anal edg	jo. 1	ROC	Kca	Quane	I only
						
IYDROLOGY						· · · · · · · · · · · · · · · · · · ·
Wetland Hydrology Indicators:						
Primary Indicators (minimum of one required:	check all that apply)	1282 - 5		·····	Secondar	y Indicators (minimum of two required)
Surface Water (A1)	Salt Crust (B	11)			Surfa	ce Soil Cracks (B6)
High Water Table (A2)	Aquatic Inver	-	313)	5.		ely Vegetated Concave Surface (B8)
Saturation (A3)	Hydrogen Su					age Patterns (B10)
Water Marks (B1)	Dry-Season V					zed Rhizospheres on Living Roots (C3
Sediment Deposits (B2)	Oxidized Rhiz			a Roots (C		ere tilled)
Drift Deposits (B3)	(where not			9 (10410 (4		sh Burrows (C8)
Algai Mat or Crust (B4)	Presence of F	-	on (C4)		the second second second second	ation Visible on Aerial Imagery (C9)
Iron Deposits (B5)	Thin Muck Su				The second second	orphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Other (Explain					Veutral Test (D5)
Water-Stained Leaves (B9)	Onici (Explaii	ii ni i (Omai	inoj			Heave Hummocks (D7) (LRR F)
Field Observations:					FIOSI-I	neave nummocks (D7) (LRK P)
Surface Water Present? YesNo	Depth (inche	a) 12) Hofm			
		26.004	n***	•		. source.
Water Table Present? Yes No						
Saluration Present? Yes No No (Includes capillary fringe)	Depth (inche	s):		Wetlan	id Hydrology I	Present? Yes No
Describe Recorded Data (stream gauge, moni	toring well, aerial pho	tos, previo	us inspe	ctions). if	available:	
	medialsystem (
Remarks:						
Car	al itin	A MA	9 1	100711	A. T. C. C. C. C. C. C. C. C. C. C. C. C. C.	
Management W.	1 1	a side of	J	er ir regit	,	
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			Great Plains Region
Project/Site: BIMMAS By	DASS	City/County: <u>4e1</u>	State: MT Sampling Date: 7/14/
Applicant/Owner:		· · · ·	State. Sampling Point, 124 22.
nvestigator(s):		Section, Township, Ra	ange: S11, 71MR26E
andform (hillslope, terrace, etc.):Plox	odalain	Local relief (concave,	convex, none): CONCAIN® Slope (%):
			Long: Datum:
Soil Map Unit Name:			A A A
re climatic / hydrologic conditions on the si	ite typical for this time of ye		
Are Vegetation, Soil, or Hyd			"Normal Circumstances" present? YesNo
Are Vegetation, Soil, or Hydi			eeded, explain any answers in Remarks.)
•			ocations, transects, important features, etc
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks:	Yes No Yes No	is the Sampled within a Wetlan	nd? YesNo
Keleva	in any me	the in culd	huated field 2-3 wide
VEGETATION - Use scientific na	mes of plants. Absolute	Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:		Species? Status	Number of Dominant Species
1			That Are OBL, FACW, or FAC (excluding FAC-): (A)
3.			Total Number of Dominant
4.		= Total Cover	Species Across All Strata:
Sapling/Shrub Stratum (Plot size:)	.9	Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
2,			Prevalence Index worksheet:
3			Total % Cover of: Multiply by:
4.			OBL species x1 = // A Section 1
5.		<u>. </u>	FACW species X2 = manual Add
Parada a seria de la compansión de la co	*	= Total Cover	FACU species x 4 =
Herb Stratum (Plot size: 1. Chalacis acundinacea) lab	FACILI	UPL species x5=
2. Bombe incomic	<u> </u>	1/T	Column Totals: (A) (B)
3.			1 - 4 × 1 × 1 × 1
4.			Prevalence Index = B/A = Hydrophytic Vegetation Indicators:
5.			1 - Rapid Test for Hydrophytic Vegetation
6.	·		2 - Dominance Test is >50%
7.			3 - Prevalence Index is ≤3.0¹
8			4 - Morphological Adaptations ¹ (Provide supporting
9			data in Remarks or on a separate sheet)
10.		= Total Cover	Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size:)		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1			Hydrophytic
2		= Total Cover	Vegetation
% Bare Ground in Herb Stratum	DAME.	70121 00001	Present? Yes No No
Remarks.			
		•	

US Army Corps of Engineers

Great Plains - Version 2.0

Profile Des	cription: (Describe	to the depth ne	eded to documer	nt the inc	dicator	or confirm	n the at	sence of indi	cators.)	
Depth	Matrix		Redox F					AND AND AND		- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1
(inches)	Color (moist)		olor (moist)	<u>"</u>	Type'	Loc	***************************************	ture	Remarks	
1.00	10463/		18 4/3	<u>```</u>		<u>KL</u>	51		<u> </u>	Na pagasilin
(ايبل	+ 2512	<u> 3 40 7,5</u>	YR341	0.	<u>C:</u>	<u> </u>	51	D Ganli	DW	
3	14,44,51					**		9.0	-	11-74
· · · · · · · ·						***************************************			***************************************	s weight to
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1	· <u>****************</u>		···		 .			<u> </u>	* * * * * * * * * * * * * * * * * * * *	<u> </u>
	Concentration, D=Dep	·····	·			d Sand Gr			PL=Pore Lining, i	
1 45 455	Indicators: (Applic	able to all LRRS	and the second of the second of	3		;	5 - 4	••	blematic Hydric	sons
Histoso		. 55	Sandy Gley		x (S4)			1 cm Muck (As		D E C 10
	pipedon (A2)		Sandy Rede					Dark Surface (Redox (A16) (LRI	к <i>т,</i> е, п)
	istic (A3) en Sulfide (A4)		 Stripped Ma Loamy Muc 						pressions (F16)	••
	d Layers (A5) (LRR f	:\	Loamy Gley	•				٠.	iside of MLRA 7	2 & 72\
	uck (A9) (LRR F, G, I	•	Depleted M					Reduced Verti		20(13)
	d Below Dark Surface		Redox Dark					Red Parent Ma		
	ark Surface (A12)	. (****)	Depleted Da			:			Dark Surface (TF	12) 45 4 1 43
	Mucky Mineral (S1)		Redox Depr			.,		Other (Explain		,
	Mucky Peat or Peat (S2) (LRR G, H)	High Plains			6)			phytic vegetation	n and
	ucky Peat or Peat (S		(MLRA						ogy must be pres	
94S)	·	••			•			unless disturbe	d or problematic	
Restrictive	Layer (if present):	10/0	71.				T			·
Type:	RIVER	XXX 1 CXX	N/O							
Depth (in	ches):	,		-			Hvdri	c Soil Presen	yes L	No
Remarks:	1.44		, ., 		·		1			
rzenigura.		ali di Albaharan M					,		11 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	s a material contract
	1.45%	n in man Sin Sin House to leve	the state				-			
HYDROLO	GY	**								
	drology Indicators:	5								
-	cators (minimum of o	re required; chec	k all that annivi		•		Se	condant Indica	itors (minimum o	f two required)
							20	Surface Soil		TWO required)
	Water (A1)		Salt Crust (B11		2427				• ,	
	iter Table (A2)		Aquatic Inverte			100	·		jetated Concave	Suriace (po)
Saturation		•	_ Hydrogen Sulfi				_ke	Drainage Pa		1
-	arks (B1)		Dry-Season W						zospheres on Liv	ring Roots (C3)
	nt Deposits (B2)		Oxidized Rhizo		on Livin	g Koots (t		(where till	•	. [
	• •		ं े (where not t	•			•	Crayfish Burn		
	et or Crust (B4)								sible on Aerial In	nagery (C9)
	osits (B5)		_ Thin Muck Surf					Geomorphic		
Inundation	on Visible on Aerial In	nagery (B7) 🗼 🔔	Other (Explain	in Remai	rks)			FAC-Neutral		
Water-St	tained Leaves (B9)							Frost-Heave	Hummocks (D7)	(LRR F)
Field Observ	vations:	e terrologic de la company							V	
Surface Wate	er Present? Ye	s No_ <u>_</u>	Depth (inches)):		.		•	, f	
Water Table	Present? Ye	s No ~	Depth (inches)):				•		1
Saturation Pr	eseni? Ye	No C	Depth (inches)	-	***************************************	Wella	nd Hvdi	rology Presen	t? Yes	No
(includes cap		5 140 <u></u>	wobar (mones)	'` 	.,,-,,-,,	Tracial	iiyul	ology i readil	. 100	
Describe Rec	corded Data (stream	gauge, monitoring	y well, aerial photo	s, previo	us inspe	ections), if	availab	le:		· ·
			Name :							
Remarks:	aydinay day ya ganadayaan ay amaangaa aa aa dada bahaan da dadaan da dadaan da da da da da da da da da da da d	() 7		Λ	······································		· ·		1	
. tomanto.	WE	nt Mtn	y dide	A	SCUM	re hu	id al	ager ic	present	
	A second section of	Samuel Control	my or his	2 1	1-		7	(JO	K	
				GV.	CWEC	~ (v~	-ROW	in prik	7002	

DATA FORM

ROUTINE WETLAND DETERMINATION (lettland length ~ 1/2 Size

(1987 COE Wetlands Delineation Manual) — filled in Confirmation 8/26/2011 8/23/2007 Date: Project Site: Billings Bypass Yellowstone County: Applicant/Owner: Montana Department of Transportation MT State: Investigator: DMKR, SLPA Community ID: Wetland Yes No Do Normal Circumstances exist on the site? × C₁ No Transect ID: Is the site significantly disturbed (Atypical Situation)? Yes Ø Plot ID: D9A Yes No Is Area a Potential Problem Area? (if needed, explain on reverse) **VEGETATION** Percent Stratum Indicator **Dominant Plant Species** Indicator Percent Stratum **Dominant Plant Species** OBL 8 60% H 1 Nebraska sedge (Carex nebrascensis) 9 5% н ΝI Salix sp. % OBL 10 20% Н Three-square bulrush (Scirpus pungens) 11 10% Curly dock (Rumex crispus) FACU 12 5% Н 5 Canada thistle (Cirsium arvense) 13 6 14 Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100% of the dominant vegetation is hydrophytic. Remarks: **HYDROLOGY** Wetland Hydrology Indicators: Recorded Data (describe in Remarks) Secondary Indicators (2 or more required): Primary Indicators: Stream, Lake, or Tide Gauge Oxidized Root Channels in Upper 12" Inundated Aerial Photographs Water-Stained Leaves Saturated in Upper 12 inches Other Local Soil Survey Data Water Marks ☐ No recorded data available **FAC-Neutral Test Drift Lines** Field Observations: Other (explain in remarks) Sediment Deposits Depth of Surface Water: (ln.) Drainage Patterns in Wetlands (ln.) Depth to Free Water in Pit: Depth to Saturated Soil: Soil is moist, not saturated. Wetland hydrology is present. Remarks: SOILS Drainage Class: Well drained Circle Map Unit Name (Series and Phase): Ha - Haverson loam, 0 to 1 percent slopes Field Observations Confirm Mapped Type? No Taxonomy (Subgroup): Profile Description: Mottle Abundance/ Mottle Colors Matrix Color Texture, Concretions, Structure, etc. (Munsell Moist) Size/Contrast (Munsell Moist) Horizon Depth (inches) Loam Many, small, faint 10YR 2/1 10YR 4/2 0-14 7.5YR 4/6 Many, large, distinct Hydric Soil Indicators: High Organic Content in Surface Layer in Sandy Soils Reducing Conditions Histosof Listed on National Hydric Soils List Gleyed or Low-Chroma Colors Histic Epipedon Listed on Local Hydric Soils List Sulfidic Odor Concretions Other (explain in remarks) Organic Streaking in Sandy Soils Aquic Moisture Regime Remarks: Meets criteria for hydric soil. WETLAND DETERMINATION Is this Sampling Point Within a Wetland?

Yes

No No Hydrophytic Vegetation Present? Yes Yes Wetland Hydrology Present? Hydric Soils Present? Canal seepage is source of hydrology for this wetland. Remarks:

	·			
				-
				.*
				:

DATA FORM ROUTINE WETLAND DETERMINATION

(1987 COE Wetlands Delineation Manual)

							1				
Project Site: Bi	lings Bypass						Date:	8/23/20	~~~~~~		
Applicant/Owner: Mo	ontana Department	of Trans	portation				County:	Yellows	stone		
Investigator: DI	MKR, SLPA						State:	MT			
Do Normal Circumstances	viet on the cite?			⊠ Yes		No	Community ID:	Upland			
Is the site significantly distu	rhed (Atvoical Situation	n)?		Yes	×	No	Transect ID:	C1_			
Is Area a Potential Problem	Area? (if needed, exp	alain on re	verse)	Yes	Ø	No	Plot ID:	(<u>D</u> 9B)			
13 Area a Fotordal Frozieni						<i></i>					
VEGETATION									,	1	T
Dominant Plant Species	······································	Percent	Stratum	Indicator	Domir	nant Plant Spe	cies		Percent	Stratum	Indicator
1 Tumble mustard (Sisymbri	um altissimum)	15%	Н	UPL	8				% %		
2 Smooth brome (Bromus in	nermis)	30%	H	NL FACU	9				%		
3 Clasping pepperweed (Leg 4 Cheatgrass (Bromus tecto	nidium perfoliatum) rum\	10%	H	NL.	11				%	 	
5	(VIII.)	%			12 13				76 %		-
6		% %	 		14				%		
7 Percent of Dominant Specie	as that are OBL_FACV		(excluding	FAC-): 0%							
	getation is not hydrop		<u></u>	<u> </u>							
Remarks: Dominant ve	getation is not nyuropi	Hyte.									
					***************************************				•		
HYDROLOGY											
Recorded Data (desc	viho in Domarke)		Wei	and Hydrology	Indical	tors:					
Recorded Data (desc	ke, or Tide Gauge			Primary Indica				Secondary Indic	ators (2 or	more requi	ired):
Aerial Phot				☐ Inund	ated				d Root Cr Stained Le	nannels in U	pper 12
Other						Upper 12 inc	hes		Soil Survey		
☐ No recorded data av	ailable		<u></u> }	☐ Wate	r Marks ines	•			eutral Test		
Field Observations:		(In.)			nent De	posits		Other (explain in	remarks)	
Depth of Surface Water Depth to Free Water in I	Pit:		1 [age Pat	tterns in Wet	lands				
Depth to Saturated Soil:		(ln.)									
Remarks: No hydrolog	ic indicators.										
		-									

SOILS							1				
	d Phase): Ha - Ha	verson lo	am, 0 to 1	percent slope:	s		Drainage Class	s; Well drained			Circle
Map Unit Name (Series an	d Phase): <u>Ha - Ha</u>	verson lo	am, 0 to 1	percent slopes	\$		Drainage Class Field Observa	s; Well drained ations Confirm M	apped Typ		
Map Unit Name (Series an Taxonomy (Subgroup):	d Phase): <u>Ha - Ha</u>	verson lo	am, 0 to 1	percent slopes	\$		Drainage Class Field Observe	s; Well drained ations Confirm M	apped Typ		
Map Unit Name (Series an			am, 0 to 1	percent slope:	3		Field Observa	ations Confirm M		oe? Yes	No No
Map Unit Name (Series an Taxonomy (Subgroup):	Matrix Color	·	am, 0 to 1		\$		Field Observa	ations Confirm M			No No
Map Unit Name (Series an Taxonomy (Subgroup): Profile Description:	Matrix Color	·	am, 0 to 1	Moltile Colors	\$		Field Observa	ations Confirm M		oe? Yes	No No
Map Unit Name (Series an Taxonomy (Subgroup): Profile Description: Depth (inches) Horizon	Matrix Color	·	am, 0 to 1	Moltile Colors	S		Field Observa	ations Confirm M		oe? Yes	No No
Map Unit Name (Series an Taxonomy (Subgroup): Profile Description: Depth (inches) Horizon	Matrix Color	·	am, 0 to 1	Moltile Colors	S		Field Observa	ations Confirm M		oe? Yes	No No
Map Unit Name (Series an Taxonomy (Subgroup): Profile Description: Depth (inches) Horizon	Matrix Color	·	am, 0 to 1	Moltile Colors	S		Field Observa	ations Confirm M		oe? Yes	No No
Map Unit Name (Series an Taxonomy (Subgroup): Profile Description: Depth (inches) Horizon 0-7	Matrix Color	·	am, 0 to 1	Moltile Colors	\$		Field Observers a Abundance/ ze/Contrast	Texture Sandy Joam	, Concretion	pe? Yes	No No
Map Unit Name (Series an Taxonomy (Subgroup): Profile Description: Depth (inches) Horizon 0-7 Hydric Soil Indicators:	Matrix Color	st)	Reducing C	Mottle Colors (Munsell Moist)			Field Observer a Abundance/ ze/Contrast High Organic Co	Texture Sandy Joam	, Concretion	pe? Yes	No No
Map Unit Name (Series an Taxonomy (Subgroup): Profile Description: Depth (inches) Horizon 0-7 Hydric Soil Indicators:	Matrix Color	st)	Reducing C	Mottle Colors (Munsell Moist)		Si	Field Observation Field Field Observation Field	Texture Sandy loam ontent in Surface at Hydric Soils L	, Concretion	pe? Yes	No No
Map Unit Name (Series an Taxonomy (Subgroup): Profile Description: Depth (inches) Horizon 0-7 Hydric Soil Indicators:	Matrix Color	rst)	Reducing C	Mottle Colors (Munsell Moist) Conditions Low-Chroma C	colors	Si	Field Observation a Abundance/ ze/Contrast High Organic Co Listed on Nation Listed on Local	Texture Sandy loam ontent in Surface lat Hydric Soils L Hydric Soils List	, Concretion	pe? Yes	No No
Map Unit Name (Series an Taxonomy (Subgroup): Profile Description: Depth (inches) Horizon 0-7 Hydric Soil Indicators: Histosol Histic Epipedon	Matrix Color (Munsell Mois 10YR 3/2	rst)	Reducing C	Mottle Colors (Munsell Moist)	colors	Si	Field Observation Field Field Observation Field	Texture Sandy loam ontent in Surface lat Hydric Soils L Hydric Soils List	, Concretion	pe? Yes	No No
Map Unit Name (Series an Taxonomy (Subgroup): Profile Description: Depth (inches) Horizon 0-7 Hydric Soil Indicators: Histosol Histosol Histic Epipedon Sulfidic Odor Aquic Moisture Regi	Matrix Color (Munsell Mols 10YR 3/2	rst)	Reducing C	Mottle Colors (Munsell Moist) Conditions Low-Chroma C	colors	Si	Field Observation a Abundance/ ze/Contrast High Organic Co Listed on Nation Listed on Local	Texture Sandy loam ontent in Surface lat Hydric Soils L Hydric Soils List	, Concretion	pe? Yes	No No
Map Unit Name (Series an Taxonomy (Subgroup): Profile Description: Depth (inches) Horizon 0-7 Hydric Soil Indicators: Histosol Histic Epipedon Sulfidic Odor	Matrix Color (Munsell Mols 10YR 3/2	rst)	Reducing C	Mottle Colors (Munsell Moist) Conditions Low-Chroma C	colors	Si	Field Observation a Abundance/ ze/Contrast High Organic Co Listed on Nation Listed on Local	Texture Sandy loam ontent in Surface lat Hydric Soils L Hydric Soils List	, Concretion	pe? Yes	No No
Map Unit Name (Series an Taxonomy (Subgroup): Profile Description: Depth (inches) Horizon 0-7 Hydric Soil Indicators: Histosol Histic Epipedon Sulfidic Odor Aquic Moisture Regi	Matrix Color (Munsell Mols 10YR 3/2	rst)	Reducing C	Mottle Colors (Munsell Moist) Conditions Low-Chroma C	colors	Si	Field Observation a Abundance/ ze/Contrast High Organic Co Listed on Nation Listed on Local	Texture Sandy loam ontent in Surface lat Hydric Soils L Hydric Soils List	, Concretion	pe? Yes	No No
Map Unit Name (Series an Taxonomy (Subgroup): Profile Description: Depth (inches) Horizon 0-7 Hydric Soil Indicators: Histosol Histosol Histic Epipedon Sulfidic Odor Aquic Moisture Regi	Matrix Color (Munsell Mols 10YR 3/2	rst)	Reducing C	Mottle Colors (Munsell Moist) Conditions Low-Chroma C	colors	Si	Field Observation a Abundance/ ze/Contrast High Organic Co Listed on Nation Listed on Local	Texture Sandy loam ontent in Surface lat Hydric Soils L Hydric Soils List	, Concretion	pe? Yes	No No
Map Unit Name (Series an Taxonomy (Subgroup): Profile Description: Depth (inches) Horizon 0-7 Hydric Soil Indicators: Histosol Histic Epipedon Sulfidic Odor Aquic Moisture Regi	Matrix Cotor (Munsell Mois 10YR 3/2 10YR 3/2 ime	rst)	Reducing C	Mottle Colors (Munsell Moist) Conditions Low-Chroma C	colors	Si	Field Observation a Abundance/ ze/Contrast High Organic Co Listed on Nation Listed on Local	Texture Sandy loam ontent in Surface lat Hydric Soils L Hydric Soils List	, Concretion	pe? Yes	No No
Map Unit Name (Series an Taxonomy (Subgroup): Profile Description: Depth (inches) Horizon 0-7 Hydric Soil Indicators: Histosol Histic Epipedon Sulfidic Odor Aquic Moisture Regi	Matrix Cotor (Munsell Mois 10YR 3/2 10YR 3/2 ime	rst)	Reducing C	Mottle Colors (Munsell Moist) Conditions Low-Chroma Cs reaking in San	Colors dy Soils	Si	Field Observe a Abundance/ ze/Contrast High Organic Co Listed on Nation Listed on Local Other (explain in	Texture Sandy Joam ontent in Surface hal Hydric Soils List remarks)	, Concretion Layer in S	oe? Yes	No No
Map Unit Name (Series an Taxonomy (Subgroup): Profile Description: Depth (inches) Horizon 0-7 Hydric Soil Indicators: Histosol Histic Epipedon Sulfidic Odor Aquic Moisture Regi Remarks: No hydric s	Matrix Color (Munsell Mole 10YR 3/2)		Reducing C Gleyed or L Concretions Organic Str	Mottle Colors (Munsell Moist) Conditions Low-Chroma C s reaking in San	Colors dy Soils	Si	Field Observe a Abundance/ ze/Contrast High Organic Co Listed on Nation Listed on Local Other (explain in	Texture Sandy Joam ontent in Surface hal Hydric Soils List remarks)	, Concretion	oe? Yes	No No
Map Unit Name (Series an Taxonomy (Subgroup): Profile Description: Depth (inches) Horizon 0-7 Hydric Soil Indicators: Histosol Histic Epipedon Sulfidic Odor Aquic Moisture Regi Remarks: No hydric s WETLAND DETERMII	Matrix Color (Munsell Mole 10YR 3/2 10YR 3/2 ime oils.		Reducing C	Mottle Colors (Munsell Moist) Conditions Low-Chroma Cs reaking in San	Colors dy Soils	Si	Field Observations of the Field Observation of	Texture Sandy Joam ontent in Surface hal Hydric Soils List remarks)	, Concretion Layer in S	oe? Yes	No No
Map Unit Name (Series an Taxonomy (Subgroup): Profile Description: Depth (inches) Horizon 0-7 Hydric Soil Indicators: Histosol Histic Epipedon Sulfidic Odor Aquic Moisture Regi Remarks: No hydric s WETLAND DETERMII Hydrophytic Vegetation P. Wetland Hydrology Prese	Matrix Color (Munsell Mole 10YR 3/2 10YR 3/2 ime oils.		Reducing C Gleyed or L Concretions Organic Str	Mottle Colors (Munsell Moist) Conditions Low-Chroma Cs reaking in San	Colors dy Soils	Si	Field Observe a Abundance/ ze/Contrast High Organic Co Listed on Nation Listed on Local Other (explain in	Texture Sandy Joam ontent in Surface hal Hydric Soils List remarks)	, Concretion Layer in S	oe? Yes	No No
Map Unit Name (Series an Taxonomy (Subgroup): Profile Description: Depth (inches) Horizon 0-7 Hydric Soil Indicators: Histosol Histosol Histic Epipedon Sulfidic Odor Aquic Moisture Regi Remarks: No hydric s WETLAND DETERMII Hydrophytic Vegetation P. Wetland Hydrology Prese Hydric Soils Present?	Matrix Cotor (Munsell Mois 10YR 3/2 10YR 3/2 ime oils.		Reducing Concretions Drganic Str	Mottle Colors (Munsell Moist) Conditions Low-Chroma Cs reaking in San	Colors dy Soils	Si	Field Observe a Abundance/ ze/Contrast High Organic Co Listed on Nation Listed on Local Other (explain in	Texture Sandy Joam ontent in Surface hal Hydric Soils List remarks)	, Concretion Layer in S	oe? Yes	No No
Map Unit Name (Series an Taxonomy (Subgroup): Profile Description: Depth (inches) Horizon 0-7 Hydric Soil Indicators: Histosol Histosol Histic Epipedon Sulfidic Odor Aquic Moisture Regi Remarks: No hydric s WETLAND DETERMII Hydrophytic Vegetation P. Wetland Hydrology Prese Hydric Soils Present?	Matrix Color (Munsell Mole 10YR 3/2 10YR 3/2 ime oils.		Reducing Concretions Drganic Str	Mottle Colors (Munsell Moist) Conditions Low-Chroma Cs reaking in San	Colors dy Soils	Si	Field Observe a Abundance/ ze/Contrast High Organic Co Listed on Nation Listed on Local Other (explain in	Texture Sandy Joam ontent in Surface hal Hydric Soils List remarks)	, Concretion Layer in S	oe? Yes	No No
Map Unit Name (Series an Taxonomy (Subgroup): Profile Description: Depth (inches) Horizon 0-7 Hydric Soil Indicators: Histosol Histosol Histic Epipedon Sulfidic Odor Aquic Moisture Regi Remarks: No hydric s WETLAND DETERMII Hydrophytic Vegetation P. Wetland Hydrology Prese Hydric Soils Present?	Matrix Cotor (Munsell Mois 10YR 3/2 10YR 3/2 ime oils.		Reducing Concretions Drganic Str	Mottle Colors (Munsell Moist) Conditions Low-Chroma Cs reaking in San	Colors dy Soils	Si	Field Observe a Abundance/ ze/Contrast High Organic Co Listed on Nation Listed on Local Other (explain in	Texture Sandy Joam ontent in Surface hal Hydric Soils List remarks)	, Concretion Layer in S	oe? Yes	No No

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		:

WETLAND DETERMINATION DATA FORM - Great Plains Region

roject/Site: Billings Rupass	City/Co	ounty: <u>Yello</u>	wstone Sampling Date: 8/24/11
nyestigator(s): L. Stragis, G. Rand	Section	n Townshin Rang	GE: S13 TIM, R26 E
andform (hillslope, terrace_etc.):	Jectio	rollo from cave co	Slope (%): 0-5
	LOCAL		
Subregion (LRR): G L	.at:		Long: Datum:
Soil Map Unit Name:			NVVI classification.
are climatic / hydrologic conditions on the site typical for this tim	ne of year? You	es No	(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology signit	ficantly disturb	oed? Are "N	Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology natur	rally problema	tic? (If nee	eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map sho	owing sam	ıpling point lo	cations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No		is the Sampled	, Area
Hydric Soil Present? Yes No		within a Wetland	d? Yes No No
Wetland Hydrology Present? Yes 1 No			
Remarks: old around pit 1980 A to poor d			upland plot - not dug - all gravel pit material
weedy butter waridon from Gollow	3 lone (Kil	yer	use x 2.
VEGETATION – Use scientific names of plants.			
1.1		ninant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:	ଥା <u>୍ରେପେ∧ଲା ଅନିକ</u>	FAC	Number of Dominant Species That Are OBL, FACW, or FAC
1 Flagaghus angustional Comoc.	<u> </u>		(excluding FAC-): (A)
3. Appulus deltoides Colomonad	<u> </u>	FÆ	Total Number of Dominant
3. HOPUIUS ABTIOIAES COMMON A			Species Across All Strata: (B)
4	= Tol	al Cover	Percent of Dominant Species //)
Sapling/Shrub Stratum (Plot size:)			That Are QBL, FACW or FAC: (A/B)
1			Prevalence Index worksheet:
2			Total % Cover of: Multiply by:
3			OBL species x 1 =
4			FACW species x 2 =
5. Salix exigua salix sp	5		FAC species x 3 =
	= To	tal Cover ·	FACU species x 4 =
Herb Stratum (Plot size:) 1 Tubba latifolia Cattails	ant i	OBL	UPL species x 5 =
1. (2)	10		Column Totals: (A) (B)
	75-		
3. Circum arvensa C. thistle	_/		Prevalence Index = B/A =
4			Hydrophytic Vegetation Indicators:
5			1 - Rapid Test for Hydrophytic Vegetation
6			2 - Dominartie Test is >50%
7			3 - Prevalence Index is ≤3.0¹
8			4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
9			Problematic Hydrophytic Vegetation (Explain)
10	100 = To	stal Cover	
Woody Vine Stratum (Plot size:)	<u>, , , , , , , , , , , , , , , , , , , </u>	00,0	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1			be present, unless disturbed of problematic.
2			Hydrophytic
		otal Cover	Vegetation Present? Yes No
% Bare Ground in Herb Stratum			Lieseitti 100
Remarks: Non-location along sta	: 54	•	4.
6 Semi ROCO Mar 10 10 11 10 10			:
	,		
			•

	**	
SOIL		Sampling Point:
Profile Description: (Describe to the dept	th needed to document the indicator or confire	m the absence of indicators.)
Depth Matrix	Redox Features	
(inches) Color (moist) %	Color (moist) % Type ¹ Loc ²	Texture Remarks
MY 10 YR 2/1 100		loan fibre
4-10 INVR 3/2 100		
12 1/ 101/10/11/10		sandy lon
10-16 10 y 1672 100.	<u> </u>	SOMOW/COBBIE
164		
.,		
:		
¹Tvpe: C=Concentration, D=Depletion, RM=	Reduced Matrix, CS=Covered or Coated Sand G	Grains. ² Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to all L		Indicators for Problematic Hydric Soils ³ :
Histosol (A1)	Sandy Gleyed Matrix (S4)	1 cm Muck (A9) (LRR I, J)
Histic Epipedon (A2)	Sandy Redox (S5)	Coast Prairie Redox (A16) (LRR F, G, H)
Black Histic (A3)	Stripped Matrix (S6)	Dark Surface (S7) (LRR G)
Hydrogen Sulfide (A4)	Loamy Mucky Mineral (F1)	High Plains Depressions (F16)
Stratified Layers (A5) (LRR F)	Loamy Gleyed Matrix (F2)	(LRR H outside of MLRA 72 & 73)
1 cm Muck (A9) (LRR F, G, H)	Depleted Matrix (F3)	Reduced Vertic (F18)
Depleted Below Dark Surface (A11)	Redox Dark Surface (F6)	Red Parent Material (TF2)
Thick Dark Surface (A12)	Depleted Dark Surface (F7)	Very Shallow Dark Surface (TF12)
Sandy Mucky Mineral (S1)	Redox Depressions (F8)	Other (Explain in Remarks)
2.5 cm Mucky Peat or Peat (S2) (LRR G		³ Indicators of hydrophytic vegetation and
5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)	wetland hydrology must be present,
Restrictive Layer (if present):	· · · · · · · · · · · · · · · · · · ·	unless disturbed or problematic.
Type: Cobble		
. 1		No.
Depth (inches):/_/b		Hydric Soil Present? Yes No
Remarks: no redox, HSulfi	ide	
/		
HYDROLOGY	:	
Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required;	check all that apply)	Secondary Indicators (minimum of two required)
Surface Water (A1)	Salt Crust (B11)	Surface Soil Cracks (B6)
₩ High Water Table (A2)	Aquatic Invertebrates (B13)	Sparsely Vegetated Concave Surface (B8)
Saturation (A3)	Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)
Water Marks (B1)	Dry-Season Water Table (C2)	Oxidized Rhizospheres on Living Roots (C3)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (
Drift Deposits (B3)	(where not tilled)	Crayfish Burrows (C8)
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)	Crayrish Burrows (C8) Saturation Visible on Aerial Imagery (C9)
Iron Donosita (PE)	Thin Muck Surface (C7)	
	• • • • • • • • • • • • • • • • • • • •	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	,	Frost-Heave Hummocks (D7) (LRR F)
Field Observations:	γv	
Surface Water Present? Yes No	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	
Water Table Present? Yes No.	Depth (inches):	, /
Saturation Present? Yes 1/ No	O Depth (inches): Wetla	and Hydrology Present? Yes No
(includes capillary fringe)	uitoring well gerial photos, previous inspections).	:f 15_kbl
Jeschoe Recorded Data (sueam dance, moor	itorina well, aeriai nnotos, previous inspectionsi, i	if available:

Remarks: Water sowre from IRR. pipe from Lake Elmo-photo
of gold culvet > waterfall to gellow stone Priva

WETLAND DETERM	IINATIO	N DA	TA F	ORIVI – C	Great Plains Region
Project/Site: Billings Bypass	(City/Co	unty: _	Yello	wstone Sampling Date: 74/4///
Applicant/Owner: Mo					State: MT Sampling Point: K2/F
Investigator(s): L. Stragis, J. 60	30€	Section	ı, Towr	nship, Ran	ge: SI2,TIN/R26E
Landform (hillslope, terrace, etc.): terrace	J	Local r	elief (c	oncave, c	onvex, none):) Slope (%): 6
Subregion (LRR):					
Soil Map Unit Name:					
Are climatic / hydrologic conditions on the site typical for this	time of ve	ar? Ye:	s 1/	/ No	(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology sig			*.		
Are Vegetation, Soil, or Hydrology na					
SUMMARY OF FINDINGS – Attach site map s	howing	samp	oling	point lo	cations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	V			_	_
Hydric Soil Present? Yes No				Sampled	1/
Wetland Hydrology Present? Yes No		'	within	a wetian	d? Yes No
Remarks:					·
laun area nearby					
			Q	stola	S
VEGETATION – Use scientific names of plants	s.			1	
	Absolute	Domir	nant In	dicator	Dominance Test worksheet:
Tree Stratum (Plot size:	% Cover				Number of Dominant Species
1. Cottonwood P. deltordes	57)		#ر	-HC	That Are OBL, FACW, or FAC (excluding FAC+):
2 Rissian alive Eurogustifale.	# <i>112</i>				
3					Total Number of Dominant Species Across All Strata: (B)
**	60		Cover	,	Percent of Dominant Species
Sapling/Shrub Stratum (Plot size:)	,		/	J	That Are OBL, FACW, or FAC: 50 (A/B)
1. Russian Blive	101-			FAC	Prevalence Index worksheet:
2					Total % Cover of: Multiply by:
3					OBL species x1 =
4	••••••••				FACW species x 2 =
J	10	= Total	Cover		FAC species $70 \times 3 = 20$
Herb Stratum (Plot size:)			,		FACU species $\frac{25}{32}$ x 4 = $\frac{100}{32}$
1. Roughfascus Frampostris	5/5			1PL	UPL species $\frac{75}{100} \times 5 = \frac{375}{685}$ (B)
2 Blue amos P. protensis	2		<u></u>	ACUH	Column Totals: 170 (A) 685 (B)
3. Story milkweed A stocenson?		•			Prevalence Index = B/A =
5					Hydrophytic Vegetation Indicators:
6.					1 - Rapid Test for Hydrophytic Vegetation
7				-	2 - Dominance Test is >50%
8.					3 - Prevalence Index is ≤3.0¹
9.				3	4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
10					Problematic Hydrophytis Vegetation¹ (Explain)
1 M - 1 M - 2 D - 1 - 2 D	_ <i> 80+</i> _=	= Total	Cover		Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size:)					be present, unless disturbed or problematic.
2					Hydrophytic
	:		Cover		Vegetation
% Bare Ground in Herb Stratum					Present? YesNo
Remarks:					

_		
•	\sim	

Sampling Point: <u>K2</u>

inches)	Color (moist)	%	Colo	r (moist)	%	s Type ¹	_Loc ²	Texture	Remarks
)- <u>5</u>	10 YR =	3/3						loam	
		7							
			-			-		-	
							.		
					<u> </u>		***************************************		
			-						

			···		4				
	oncentration, D=D						d Sand G	rains2Lo	cation: PL=Pore Lining, M=Matrix.
dric Soil	Indicators: (App	licable to	all LRRs, ι	inless other	rwise not	ed.)		Indicators	for Problematic Hydric Soils ³ :
_ Histosol			,	Sandy (-				Muck (A9) (LRR I, J)
	oipedon (A2)		,		Redox (S5				Prairie Redox (A16) (LRR F, G, H)
Black Hi					d Matrix (S Mucky Mir				Surface (S7) (LRR G) Plains Depressions (F16)
	n Sulfide (A4) i Layers (A5) (LR	R F)	•		Gleyed Ma				RR H outside of MLRA 72 & 73)
	ick (A9) (LRR F,				d Matrix (•	ed Vertic (F18)
	d Below Dark Sur			Redox l	Dark Surfa	ace (F6)		Red P	arent Material (TF2)
	ark Surface (A12)			Deplete					Shallow Dark Surface (TF12)
	lucky Mineral (S1		.	Redox [4.63		(Explain in Remarks) of hydrophytic vegetation and
	Mucky Peat or P็e icky Peat or Peat			High Pla	-	essions (r 73 of LRR			d hydrology must be present,
_ 5 GH WIL	icky real of real	(55) (ERR		/*****	10-12 G	7 O LICIC	,		disturbed or problematic.
								T	
estrictive I	Layer (if present);)	
	Layer (if present):							
Туре:	.)):						Hydric Soil	Present? Yes No
Type: Depth (in	hardpan):						Hydric Soil	Present? Yes No
Туре:	hardpan):						Hydric Soil	Present? YesNo
Type: Depth (in	hardpan):						Hydric Soil	Present? YesNo
Type: Depth (inc emarks:	handpan ches): 5"):						Hydric Soil	Present? YesNo
Type: Depth (inc emarks:	handpan ches): 5"):						Hydric Soil	Present? Yes No
Type: Depth (independent of the content of the	handpan ches): 5"	rs:	-				-,-,-		
Type: Depth (incemarks: 'DROLO 'etland Hydrimary Indice	hand pan ches): _5" GY drology Indicators (minimum of	rs:	ired; check		-			Seconda	ary Indicators (minimum of two require
Type: Depth (incemarks: DROLO etland Hydrimary Indice _ Surface	GY drology Indicato cators (minimum of	rs:		Salt Crust	(B11)			Second: Sur	ary Indicators (minimum of two require face Soil Cracks (B6)
Type: Depth (incemarks: 'DROLO 'etland Hydrimary Indice _ Surface _ High Wa	GY drology Indicato cators (minimum of Water (A1) ater Table (A2)	rs:		Salt Crust Aquatic In	(B11) vertebrate			Second: Sur Spa	ary Indicators (minimum of two require face Soil Cracks (B6) irsely Vegetated Concave Surface (B8
Type: Depth (incemarks: 'DROLO 'etland Hydrimary Indice Surface High Wa	GY drology Indicator (minimum of Water (A1) ater Table (A2) on (A3)	rs:		Salt Crust Aquatic In Hydrogen	(B11) vertebrate Sulfide O	dor (C1)		Second: Sur Spa Dra	ary Indicators (minimum of two require face Soil Cracks (B6) irsely Vegetated Concave Surface (B8 inage Patterns (B10)
Type: Depth (incemarks: 'DROLO 'etland Hyr imary India _ Surface _ High Wa _ Saturatic _ Water M	GY drology Indicato cators (minimum of water (A1) ater Table (A2) on (A3) larks (B1)	rs:	 	Salt Crust Aquatic In Hydrogen Dry-Seaso	(B11) vertebrate Sulfide Oo on Water T	dor (C1) Γable (C2)	na Booto	Second: Sur Spa Dra Oxi	ary Indicators (minimum of two require face Soil Cracks (B6) irsely Vegetated Concave Surface (B8 inage Patterns (B10) dized Rhizospheres on Living Roots (C
Type: Depth (incemarks: 'DROLO 'etland Hyr rimary India _ Surface _ High Wa _ Saturatia _ Water M _ Sedimer	GY drology Indicator cators (minimum of water (A1) ater Table (A2) on (A3) darks (B1) at Deposits (B2)	rs: of one requi	- - - -	Sall Crust Aquatic In Hydrogen Dry-Seaso Oxidized F	(B11) vertebrate Sulfide Or on Water T	dor (C1) Γable (C2) res on Livi	ng Roots	Second: Sur Spa Dra Oxio	ary Indicators (minimum of two require face Soil Cracks (B6) irsely Vegetated Concave Surface (B8 inage Patterns (B10) dized Rhizospheres on Living Roots (C where tilled)
Type: Depth (incemarks: 'DROLO 'etland Hyrrimary India _ Surface _ High Wa _ Saturatic _ Water M _ Sedimer _ Drift Dep	GY drology Indicato cators (minimum a) Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) posits (B3)	rs:		Sall Crust Aquatic In Hydrogen Dry-Seaso Oxidized F	(B11) vertebrate Sulfide Ocon Water T Rhizosphe not tilled)	dor (C1) Fable (C2) res on Livi		Second: Sur Spa Dra Oxi (C3) (v	ary Indicators (minimum of two require face Soil Cracks (B6) arsely Vegetated Concave Surface (B8 inage Patterns (B10) dized Rhizospheres on Living Roots (C where tilled) yfish Burrows (C8)
Type: Depth (incemarks: /DROLO /etland Hydrimary India Surface High Water Model Sedimer Drift Depter Model Mode	GY drology Indicato cators (minimum of Water (A1) ater Table (A2) on (A3) darks (B1) and Deposits (B2) cosits (B3) at or Crust (B4)	rs: of one requi		Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where in Presence	(B11) vertebrate Sulfide Or on Water T Rhizosphe not tilled) of Reduce	dor (C1) Fable (C2) Fres on Livi ed Iron (C4		Seconda Sur Spa Dra Oxiv (C3) (v Cra Seconda	ary Indicators (minimum of two require face Soil Cracks (B6) irsely Vegetated Concave Surface (B8 inage Patterns (B10) dized Rhizospheres on Living Roots (C where tilled) yfish Burrows (C8) uration Visible on Aerial Imagery (C9)
Type: Depth (indemarks: /DROLO /etland Hydrimary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep	GY drology Indicator cators (minimum of the Water (A1) of the Table (A2) of (A3) of the Table (B2) of the Table (B3) of the Table (B3) of the Table (B3) of the Table (B4) of the Table (B4) of the Table (B4) of the Table (B4) of the Table (B4) of the Table (B4) of the Table (B4) of the Table (B4) of the Table (B4) of the Table (B4) of the Table (B5)	rs: of one requi	0 -	Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where in Presence Thin Muck	(B11) vertebrate Sulfide Or on Water T Rhizosphe not tilled) of Reduce Surface (dor (C1) Fable (C2) res on Livi ed Iron (C4 (C7)		Seconda Sur Spa Dra Oxic (C3) (v Cra Satt Geo	ary Indicators (minimum of two require face Soil Cracks (B6) arsely Vegetated Concave Surface (B8 inage Patterns (B10) dized Rhizospheres on Living Roots (Cyhere tilled) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) omorphic Position (D2)
Type: Depth (incemarks: /DROLO /etland Hyrrimary India Surface High Water Mage Water Mage Mage Mage Mage Mage Mage Mage Mage	GY drology Indicator cators (minimum of water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Cruet (B4) cosits (B5) on Visible on Aer	rs: of one requi	0 -	Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where in Presence	(B11) vertebrate Sulfide Or on Water T Rhizosphe not tilled) of Reduce Surface (dor (C1) Fable (C2) res on Livi ed Iron (C4 (C7)		Second: Sur Spa Dra Oxid (C3) (v Cra Sati Gec FAC	ary Indicators (minimum of two require face Soil Cracks (B6) ursely Vegetated Concave Surface (B8 inage Patterns (B10) dized Rhizospheres on Living Roots (Cyhere tilled) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) omorphic Position (D2) C-Neutral Test (D5)
Type: Depth (incemarks: /DROLO /etland Hyrimary India Surface High Water Magal Water Magal Maler Incemarks Incompleted Inundation Water-S	GY drology Indicato cators (minimum of water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) cosits (B3) at or Cruet (B4) cosits (B5) on Visible on Aeritained Leaves (B	rs: of one requi	0 -	Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where in Presence Thin Muck	(B11) vertebrate Sulfide Or on Water T Rhizosphe not tilled) of Reduce Surface (dor (C1) Fable (C2) res on Livi ed Iron (C4 (C7)		Second: Sur Spa Dra Oxid (C3) (v Cra Sati Gec FAC	ary Indicators (minimum of two require face Soil Cracks (B6) arsely Vegetated Concave Surface (B8 inage Patterns (B10) dized Rhizospheres on Living Roots (Cyhere tilled) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) omorphic Position (D2)
Type: Depth (included in the property of	GY drology Indicator cators (minimum of the Table (A2) on (A3) darks (B1) ant Deposits (B2) oosits (B3) at or Cruet (B4) oosits (B5) on Visible on Aeritained Leaves (B	rs: of one requi	D — (B7) _	Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where i Presence Thin Muck Other (Exp	(B11) vertebrate Sulfide Or on Water T Rhizosphe not tilled) of Reduce Surface (blain in Re	dor (C1) Fable (C2) Fres on Livi Ged Iron (C4 (C7) Fremarks)	·	Second: Sur Spa Dra Oxid (C3) (v Cra Sati Gec FAC	ary Indicators (minimum of two require face Soil Cracks (B6) ursely Vegetated Concave Surface (B8 inage Patterns (B10) dized Rhizospheres on Living Roots (Cyhere tilled) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) omorphic Position (D2) C-Neutral Test (D5)
Type: Depth (incomplete Complete Primary India Surface High Water M Sedimer Drift Depth Algal Mater Iron Depth Iron	GY drology Indicato cators (minimum of the Table (A2) on (A3) darks (B1) nt Deposits (B2) posits (B3) at or Cruet (B4) posits (B5) on Visible on Aer tained Leaves (B vations: er Present?	rs: of one requi	(B7)	Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where in Presence Thin Muck Other (Exp	(B11) vertebrate Sulfide Or on Water T Rhizosphe not tilled) of Reduce Surface (plain in Re	dor (C1) Fable (C2) Fes on Livi ed Iron (C4 (C7) emarks)	· 	Second: Sur Spa Dra Oxid (C3) (v Cra Sati Gec FAC	ary Indicators (minimum of two require face Soil Cracks (B6) ursely Vegetated Concave Surface (B8 inage Patterns (B10) dized Rhizospheres on Living Roots (Cyhere tilled) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) omorphic Position (D2) C-Neutral Test (D5)
Type: Depth (inclemarks: YDROLO Vetland Hydrimary India Surface High Water M Sedimer Drift Dep Algal Ma Iron Dep Inurdati Water-S Geld Obser	GY drology Indicator cators (minimum of the Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Cruet (B4) cosits (B5) on Visible on Aer rtained Leaves (B vations: er Present?	rs: of one requi	(B7)	Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where i Presence Thin Muck Other (Exp	(B11) vertebrate Sulfide Or on Water T Rhizosphe not tilled) of Reduce : Surface (plain in Re ches):	dor (C1) Fable (C2) Fres on Livi Fred Iron (C4 (C7) Fremarks)		Second: Sur Spa Dra Oxi (C3) (v Cra Sat Gec FAC	ary Indicators (minimum of two require face Soil Cracks (B6) insely Vegetated Concave Surface (B8 inage Patterns (B10) dized Rhizospheres on Living Roots (C where tilled) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) omorphic Position (D2) C-Neutral Test (D5) st-Heave Hummocks (D7) (LRR F)
Type: Depth (indemarks: /DROLO /etland Hydrimary Indidemarks	GY drology Indicator cators (minimum of the Water (A1) of the Table (A2) on (A3) of the Table (B4) of the Table (B3) of the Table (B4) of the Table (B5) on Visible on Aeritained Leaves (Bayations: er Present? Present? resent? resent?	al Imagery Yes Yes	(B7)	Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where i Presence Thin Muck Other (Exp Depth (in Depth (in	(B11) vertebrate Sulfide Or on Water T Rhizosphe not tilled) of Reduce Surface (colain in Re ches): ches): ches):	dor (C1) Fable (C2) Fes on Livi ed Iron (C4 (C7) emarks)		Second: Sur Spa Dra Oxi (C3) (v Cra Sati Ger FAC From	ary Indicators (minimum of two require face Soil Cracks (B6) ursely Vegetated Concave Surface (B8 inage Patterns (B10) dized Rhizospheres on Living Roots (Cyhere tilled) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) omorphic Position (D2) C-Neutral Test (D5)
Type: Depth (indemarks: /DROLO /etland Hydrimary Indidemarks	GY drology Indicator cators (minimum of water (A1) ater Table (A2) on (A3) larks (B1) at or Crust (B4) posits (B5) on Visible on Aer tained Leaves (B vations: er Present? Present?	al Imagery Yes Yes	(B7)	Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where i Presence Thin Muck Other (Exp Depth (in Depth (in	(B11) vertebrate Sulfide Or on Water T Rhizosphe not tilled) of Reduce Surface (colain in Re ches): ches): ches):	dor (C1) Fable (C2) Fes on Livi ed Iron (C4 (C7) emarks)		Second: Sur Spa Dra Oxi (C3) (v Cra Sati Ger FAC From	ary Indicators (minimum of two require face Soil Cracks (B6) insely Vegetated Concave Surface (B8 inage Patterns (B10) dized Rhizospheres on Living Roots (C where tilled) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) omorphic Position (D2) C-Neutral Test (D5) st-Heave Hummocks (D7) (LRR F)
Type: Depth (indemarks: /DROLO /etland Hydrimary India _ Surface _ High Water Manager Mater Table aturation Pencludes car	GY drology Indicator cators (minimum of the Water (A1) of the Table (A2) on (A3) of the Table (B4) of the Table (B3) of the Table (B4) of the Table (B5) on Visible on Aeritained Leaves (Bayations: er Present? Present? resent? resent?	al Imagery Yes Yes	(B7)	Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where i Presence Thin Muck Other (Exp Depth (in Depth (in	(B11) vertebrate Sulfide Or on Water T Rhizosphe not tilled) of Reduce Surface (colain in Re ches): ches): ches):	dor (C1) Fable (C2) Fes on Livi ed Iron (C4 (C7) emarks)		Second: Sur Spa Dra Oxi (C3) (v Cra Sati Ger FAC From	ary Indicators (minimum of two require face Soil Cracks (B6) insely Vegetated Concave Surface (B8 inage Patterns (B10) dized Rhizospheres on Living Roots (C where tilled) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) omorphic Position (D2) C-Neutral Test (D5) st-Heave Hummocks (D7) (LRR F)

	VETLAND DETERM					1
roject/Site: Billings	Bu pass	Citv/	County: Yello	wstore	_ Sampling Date: 👸	8/24
ojecusite	3) (,		State:	Sampling Point: _E	11
pplicant/Owner: <u>MDT</u> vestigator(s): <u>1 Stragis</u>	/ Dan d	Coo	ion Township Pan	70: 510 T	IN RaGE	1
ivestigator(s): 15Tragi	S. G. Kanol	Sect	eon, Township, Nan	ge	Sione	(%): 55
andform (hillslope, terrace etc.): _	Floodplain	Loc	al relief (concave, c	onvex, none):	Stope	(76). 327
ubregion (LRR):		Lat:		Long:	Datum:	Pzn
oil Map Unit Name:				NWI classi	fication:	12,1
re climatic / hydrologic conditions o	on the site typical for this	time of year?	Yes \ No	(if no, explain in	Remarks.)	/
re Vegetation, Soil				Normal Circumstances	present? Yes	No
re Vegetation, Soil				eded, explain any ansv		
			•			uroe o
SUMMARY OF FINDINGS -	Attach site map s	howing sa	mpling point ic	cations, transec	- inportant roat	
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes 1 No		Is the Sampled within a Wetlan	Area d? Yes		
Remarks: Otoak 10'will	le ,		101			
	10	,	12	A ====	cina a seri l.	w.
	we st		<u> East</u>	<u> (A. C)105</u>	sing wide	1 YO
VEGETATION – Use scient	ific names of plant	s. ″				
7 3		Absolute Do	ominant Indicator	Dominance Test wo	rksheet:	
Tree Stratum (Plot size: 30	<u>) </u>	% Cover Sr	oecies? Status	Number of Dominant	Species	
1. Slave agous agusti	folia, Rolle	40-	V FAC	That Are OBL, FACV (excluding FAC-):	v, or FAC	(A
<u>د</u>				•		
3				Total Number of Don Species Across All S		(B
4.		——————————————————————————————————————		į ·	,	
and the state of t		<u>///</u> =T	otal Cover	Percent of Dominant That Are OBL, FACV	Species	(A
Sapling/Shrub Stratum (Plot size						`
1				Prevalence Index w		
3.					f: Multiply i	
4.					x1=	
4					x 2 =	
5		= 7	otal Cover		x3 =	
Herb Stratum (Plot size:				1	×4=	
1. Apocynum canni	abinum Cologbar	<u> </u>	FAC		x 5 =	
2 Ambaris arundingos.	Roed canany a rom	<u>os 70 _</u>	FACM	Column Totals:	(A)	
3. Carox (Storita)	Sedge award?	<u> 15 </u> w	fbwen/FAC)	Prevalence Inc	lex = B/A =	
4						
5. Agrostis alba	Rostop	101	FACW		or Hydrophytic Vegetat	ion
6			· · · · · · · · · · · · · · · · · · ·	1/2 - Dominance		
7.	<u> </u>	·		3 - Prevalence I		
8				4 - Morphologic	al Adaptations ¹ (Provid	e suppo
9.		, <u> </u>		data in Rem	arks or on a separate s	heet)
10		·		Problematic Hy	drophytic Vegetation¹ (Explain)
		100 =	Fotal Cover	Indicators of hydric	soil and wetland hydro	logy mu
Woody Vine Stratum (Plot size:				be present, unless	listurbed or problemati	c.
1		. <u></u>		Hadrant Ma		
2		, 	T-t-l Ones	Hydrophytic Vegetation	12	
Of Dara Craund in Llash Chrotum	•	= = = = = = = = = = = = = = = = = = = =	Total Cover	Present?	Yes No	
% Bare Ground in Herb Stratum.			- da	1/11		,
1	wide from co		WEST STON	/ IV. Silbonian	relm, skunk	bust
1	Sur! Stok		1			
5 mm n = -	1214 9 1 Camp	م المديد	eas /	usedy by	Great Plains -	

Remarks:

saturation + surface water in aroos north

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Billings Bypass	City/County: <u>Jel</u>	oustone Sampling Date: 8/24/1
Annicont/Owner M DT		State: 1711 Sampling Point:
1 Stradic G Rand	Section Township Ran	ige: S12, TIN, R26E
Landform (hillslope, terrace, etc.):	Local relief (concave, c	onvex, none) Slope (%):
Subregion (LRR):		Long: Datum:
		NWI classification: UPL
Soil Map Unit Name:		
Are climatic / hydrologic conditions on the site typical for this time of y		Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology significantly		
Are Vegetation, Soil, or Hydrology naturally p	(eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showin	g sampling point lo	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	Is the Sampled	Area
Hydric Soil Present? Yes No	within a Wetlan	d? Yes No
Wetland Hydrology Present? Yes No/	·	
Remarks: 15' w of wetlandedge sondstone cliffs opposite(8		
sandstan cliffe apposital	130 hia/M	
30 100 01 100 01 100 1100	y	
VEGETATION – Use scientific names of plants.		
Absolute		Dominance Test worksheet:
Tree ottavani (is is is is is is is is is is is is is	r Species? Status	Number of Dominant Species
1		That Are OBL, FACW, or FAC (A)
2		
3		Total Number of Dominant Species Across All Strata: (B)
4	_ = Total Cover	
Sapling/Shrub Stratum (Plot size:)	_ ~ 10(a) 00061	Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
1		Prevalence Index worksheet:
2.		Total % Cover of: Multiply by:
3.		OBL species x1=
4		FACW species x2= x2=
5		FAC species x3 =
Herb Stratum (Plot size:)	_ = Total Cover	FACU species x 4 =
1. Por gratensis K blue grown 901	V FACU	UPL species x 5 =
2 Aproxix alba Redton 101	; FACW	Column Totals: (A) (B)
3. Equisatum la evig atum Sis rush 101	FAC	Prevalence Index = B/A =
4. Smally < 21/		Hydrophytic Vegetation Indicators:
5		1 Rapid Test for Hydrophytic Vegetation
6		2 - Dominance Test is >50%
7		3 - Prevalence Index is ≤3.0¹
8		4 - Morphological Adaptations (Provide supporting
9		data in Remarks or on a separate sheet)
10.		Problematic Hydrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size:)	= Total Cover	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1	·	Hydrophytic
2	= Total Cover	Vegetation
% Bare Ground in Herb Stratum	10(a) COVCI	Present? Yes No No
Remarks:		
	•	
		Great Plains – Version 2.0
US Army Corps of Engineers	• •	Great Plains - Version 2.0

Sampling Point: F2

Profile Desc	ription: (Desc	ibe to the	depth ne	eded to docu	ment the i	ndicator	or confirn	n the absence	of indicators.)
Depth	Matr				ox Feature:			•	
(inches)	Color (moist			olor (moist)			Loc ²	Texture	Remarks
0-4	10 YR 3	<u> 3 10 </u>	12	and the second of the second o					
					-				

	-								
		····			-				.
¹Type: C=Co	ncentration, D=	Depletion,	RM=Redu	iced Matrix, C	S=Covered	or Coate	d Sand Gr	rains. ² Loca	ation: PL=Pore Lining, M=Matrix.
	ndicators: (Ap								or Problematic Hydric Soils³:
Histosol	(A1)	,		Sandy (Gleyed Ma	trix (S4)		1 cm M	uck (A9) (LRR I, J)
	ipedon (A2)				Redox (S5)				rairie Redox (A16) (LRR F, G, H)
Black His					d Matrix (S				urface (S7) (LRR G)
	n Sulfide (A4)				Mucky Min			— •	ains Depressions (F16)
	Layers (A5) (L1		-		Gleyed Ma			•	R H outside of MLRA 72 & 73)
	ck (A9) (LRR F,				d Matrix (F				d Vertic (F18)
•	Below Dark Su				Qark Surfa d Dark Sur				rent Material (TF2)
	rk Surface (A12) ucky Mineral (S			•	a Dark Sur Depression	,			allow Dark Surface (TF12) Explain in Remarks)
	lucky Milleral (S lucky Peat or Pe	•	2R G H)		ains Depre		16)		f hydrophytic vegetation and
	cky Peat or Peat				RA 72 & 7	•			hydrology must be present,
		. () (,	,	,			•••		tisturbed or problematic.
Restrictive L	ayer (if present	:):							·
Type:	hardo	ago							
Depth (inc	1	,						Hydric Soil F	Present? Yes No 2
Remarks:	,							<u> </u>	
					•				•
11/0001.0/			<u></u>						
HYDROLOG					~ _ ~				· · · · · · · · · · · · · · · · · · ·
-	rology Indicate								A district of a state
	ators (minimum	of one requ	ured; ched						y Indicators' (minimum of two required)
	Vater (A1)		-	Salt Crust					ce Soil Cracks (B6)
	er Table (A2)		-		vertebrates				sely Vegetated Concave Surface (B8)
Saturatio			-	Hydrogen					age Patterns (B10)
Water Ma		. `		Dry-Seaso					zed Rhizospheres on Living Roots (C3)
	Deposits (B2)			Oxidized R	-	es on Livii	ng Roots (ere tilled)
	osits (B3)				ot tilled)	, , ,			ish Burrows (C8)
	or Crust (B4)		-	Presence)		ation Visible on Aerial Imagery (C9)
Iron Depo			(DZ)	Thin Muck		•			norphic Position (D2)
	n Visible on Aeri		(R1) ~	Other (Exp	iain in Ren	narks)	·		Neutral Test (D5)
	ained Leaves (B)						Frost-	Heave Hummocks (D7) (LRR F)
Field Observ				pa					•
Surface Wate	•	Yes		Depth (inc			-		
Water Table F		Yes		Depth (inc				• .	
Saturation Pre		Yes	_ No	Depth (inc	hes):		_ Wetla	ind Hydrology	Present? Yes No
(includes capi Describe Rec	ilary fringe) orded Data (stre	am gauge	monitorin	g well, aerial r	hotos pre	vious insr	ections)	f available:	
		anada'		a rrun, uuriui þ		Livao mop			
Remarks:				· · · · · · · · · · · · · · · · · · ·					
nomano,									*
		• ' .						X	

WEILAND DETERMINATI	ION DATA FORM – Great Plains Region
	City/County: <u>Jelloustone</u> Sampling Date: <u>8/24/11</u>
W Com	State: 1 1 Samping Folia. 1
oplicant/Owner: MDT 0	Section, Township, Range: 5/3 T/N R26E
vestigator(s):	Slope (%): O
Indform (hillslope terrace)etc.): + 1000 AP 101 N	Local relief (corcave) convex, none): Slope (%):
	Long: Datum: NWI classification: (PSS
oil Map Unit Name:	NVVI classification.
re climatic / hydrologic conditions on the site typical for this time of	year? Yes (If no, explain in Remarks.)
re Vegetation, Soil, or Hydrologysignificant	atly disturbed? Are "Normal Circumstances" present? Yes No
re Vegetation, Soil, or Hydrology naturally p	problematic? (If needed, explain any answers in Remarks.)
LIMMARY OF FINDINGS - Attach site man showir	ng sampling point locations, transects, important features, etc.
UNIWART OF FINDINGS - Attach site map ensure	
Hydrophytic Vegetation Present? Yes No	Is the Sampled Area
Hydric Soil Present? Yes V No	within a Wetland? Yes No
Wetland Hydrology Present? Yes No	(=2-upland)
Remarks: depression in old othory, olde	or willows
/EGETATION – Use scientific names of plants.	
Absolu	
Tree Stratum (Plot size:)	ver Species? Status Number of Dominant Species
1. Saliv Fragilis Crack with 20	That Are OBL, FACW, or FAC (excluding FAC-):
2	the contract of the contract of
3	Total Number of Dominant Species Across All Strata: 4 (B)
4	
	Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)
Sapling/Shrub Stratum (Plot size:) 1. Shephordia argernace/thorny BB 30/	
2. Rhus trilobota skuntbush >5	(V_1 = 1
2. 1/10/8	Total % Cover of: Multiply by:
J	OBL species x1 = FACW species 80 x2 = 160
5.	0.00
3'	FAC species 30 x3 = FACU species 20 x4 = 80
Herb Stratum (Plot size: //)	Add speaks
1. Phalanis anundinacea / R. Camiragress 8	THE OF LAND (D)
2. Agrophyron opicorhon/ BB wheatgras 2	O 1 FACE COMMITTEE TO THE PARTY OF THE PARTY
	Prevalence Index = B/A = 750 = 3.6
3.	
4.	Hydrophytic Vegetation Indicators:
4	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation
5. 6.	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
4	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹
4	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 2 - Dominance Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting
4	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
4	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain)
4	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is ≥50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) = Total Cover
4	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain)
4	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is ≥50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) = Total Cover
4	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) 1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation 1 - Rapid Test for Hydrophytic Vegetation (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Explain)
4	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is ≥50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic

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Profile Description: (Describe to the depth needed to document the indicator or or Depth Matrix Redox Features	
Depth Matrix Redox Features	confirm the absence of indicators.)
	·
(inches) Color (moist) % Color (moist) % Type ¹ [_oc ² Texture Remarks
<u>0-2 </u>	chy loan,
2-8 25 Y 3/2	bamclay faint redox not si
8-14 2,5X4/1 60 2546/6 40 DE 1	n clay
2016/6 10 19 1	in eng
	*
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated S	· · · · · · · · · · · · · · · · · · ·
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
Histosol (A1) Sandy Gleyed Matrix (S4)	1 cm Muck (A9) (LRR I, J)
Histic Epipedon (A2) Sandy Redox (S5)	Coast Prairie Redox (A16) (LRR F, G, H)
Black Histic (A3) Stripped Matrix (S6)	Dark Surface (S7) (LRR G)
Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1)	High Plains Depressions (F16)
Stratified Layers (A5) (LRR F) Loamy Gleyed Matrix (F2) /1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3)	(LRR H outside of MLRA 72 & 73)
1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) Depleted Below Dark Surface (A11) Redox Dark Surface (F6)	Reduced Vertic (F18)
Thick Dark Surface (A12) Depleted Dark Surface (F7)	Red Parent Material (TF2) Very Shallow Dark Surface (TF12)
Sandy Mucky Mineral (S1) Redox Depressions (F8)	Other (Explain in Remarks)
2.5 cm Mucky Peat or Peat (S2) (LRR G, H) High Plains Depressions (F16)	³ Indicators of hydrophytic vegetation and
5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H)	wetland hydrology must be present,
·	unless disturbed or problematic.
Restrictive Layer (if present):	
Type:	
Depth (inches):	Hydric Soil Present? Yes V No
Remarks:	
,	
YDROLOGY	
Vetland Hydrology Indicators:	
- 	
- 	Secondary Indicators (minimum of two required)
rimary Indicators (minimum of one required; check all that apply)	Secondary Indicators (minimum of two required)
rimary Indicators (minimum of one required; check all that apply) Surface Water (A1) Salt Crust (B11)	V Surface Soil Cracks (B6)
rimary Indicators (minimum of one required; check all that apply) Surface Water (A1) Salt Crust (B11) High Water Table (A2) Aquatic Invertebrates (B13)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8)
rimary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Saturation (A3) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10)
rimary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Saturation (A3) Dry-Season Water Table (C2)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3)
rimary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living R	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) toots (C3) (where tilled)
rimary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) (where not tilled)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8)
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rimary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Water Marks (B1) Dry-Season Water Table (C2) Sediment Deposits (B2) Oxidized Rhizospheres on Living R Where not tilled Algal Mat or Crust (B4) Iron Deposits (B5) Thin Muck Surface (C7)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
rimary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Salt Crust (B1) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living R (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5)
rimary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Dry-Season Water Table (C2) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
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Surface Water (A1) Salt Crust (B11) Aquatic Invertebrates (B13) Saturation (A3) Water Marks (B1) Dry-Season Water Table (C2) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water Salt Crust (B4) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living R (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks) Water-Stained Leaves (B9)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5)
Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) ield Observations: urface Water Present? Yes No Depth (inches): aturation Present? Yes No Depth (inches):	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5)
Surface Water (A1) Salt Crust (B11) Aquatic Invertebrates (B13) Saturation (A3) Water Marks (B1) Dry-Season Water Table (C2) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Ield Observations: Urface Water Present? Ves No Depth (inches): Date Crust (B4) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living R (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): Depth (inches): Depth (inches):	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5) Frost-Heave Hummocks (D7) (LRR F) Wetland Hydrology Present? Yes No
Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) ield Observations: urface Water Present? Ves No Depth (inches): Vater Table Present? Ves No Depth (inches):	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5) Frost-Heave Hummocks (D7) (LRR F) Wetland Hydrology Present? Yes No
Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Ield Observations: Urface Water Present? Ves No Depth (inches): Depth (inches): Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspectice.	Surface Soil Cracks (B6) — Sparsely Vegetated Concave Surface (B8) — Drainage Patterns (B10) — Oxidized Rhizospheres on Living Roots (C3) toots (C3) (where tilled) — Crayfish Burrows (C8) — Saturation Visible on Aerial Imagery (C9) — Geomorphic Position (D2) — FAC-Neutral Test (D5) — Frost-Heave Hummocks (D7) (LRR F) Wetland Hydrology Present? Yes No — No
Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Ield Observations: Urface Water Present? Ves No Depth (inches): Depth (inches): Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspectice.	Surface Soil Cracks (B6) — Sparsely Vegetated Concave Surface (B8) — Drainage Patterns (B10) — Oxidized Rhizospheres on Living Roots (C3) toots (C3) (where tilled) — Crayfish Burrows (C8) — Saturation Visible on Aerial Imagery (C9) — Geomorphic Position (D2) — FAC-Neutral Test (D5) — Frost-Heave Hummocks (D7) (LRR F) Wetland Hydrology Present? Yes No — No
rimary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Dry-Season Water Table (C2) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) eld Observations: urface Water Present? Yes No Depth (inches): ater Table Present? Yes No Depth (inches): ater Table Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections) bescribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections)	Surface Soil Cracks (B6) — Sparsely Vegetated Concave Surface (B8) — Drainage Patterns (B10) — Oxidized Rhizospheres on Living Roots (C3) toots (C3) (where tilled) — Crayfish Burrows (C8) — Saturation Visible on Aerial Imagery (C9) — Geomorphic Position (D2) — FAC-Neutral Test (D5) — Frost-Heave Hummocks (D7) (LRR F) Wetland Hydrology Present? Yes No — No

WETLAND DETERMINATION DATA FORM – Great Plains Region

WEILAND DETERMINATI		
oject/Site: <u>Billings Bypass</u>	_ City/County: <u>Sell c</u>	on stone Sampling Date: 8/29/11
the second second		2(SIE
1 01	Cartier Township Dan	70: S/2.7 IN, K26 =
to the state of th	Local reliet (concave) of	onvex, none).
ubregion (LRR): Lat:		Long: Datum:
ubregion (LRR):		NWI classification: P 2W
oil Map Unit Name: re climatic / hydrologic conditions on the site typical for this time of	voar? Ves No	(If no, explain in Remarks.)
re climatic / hydrologic conditions on the site typical for this time of	the disturbed? Are "N	Normal Circumstances" present? Yes No
re Vegetation, Soil, or Hydrology significan	•	eded, explain any answers in Remarks.)
re Vegetation, Soil, or Hydrology naturally	ľ	*
UMMARY OF FINDINGS – Attach site map showing	ng sampling point ic	ocations, transects, important routines,
Hydrophytic Vegetation Present? Yes No	- Is the Sampled	Area
Hydric Soil Present? Yes No	Willia recuan	d? Yes No V
Wetland Hydrology Present? Yes No		
Remarks: west of stream		
alla mes. of survey	•	
/EGETATION – Use scientific names of plants.		
Absolu	ite Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:) % Con	ver Species? Status	Number of Dominant Species That Are OBL, FACW, or FAC
1		(excluding FAC-):
1		
3		Species Across All Strata: (B)
4	= Total Cover	Percent of Dominant Species
Sapling/Shrub Stratum (Plot size:)		That Are OBL, FACW, or FAC: (A/B)
1		Prevalence Index worksheet:
2		Total % Cover of: Multiply by:
3.		OBL species x 1 =
4		FACW species X2 =
5		FAC species 80 x3 = 240
(Distaine)	= Total Cover	FACU species 20 x 4 = 80
1. Apocy num cannabinum/C. doglane	80 V FAC	UPL species x5 =
2. Bromus inems	O FACU	Column Totals: 100 (A) 320 (B)
3. Poa sp 7	5	Prevalence Index = B/A = 3, 2
4		Hydrophytic Vegetation Indicators:
5.		
6.		2 - Dominance Test is >50%
7		3 - Prevalence Index is ≤3.01
8		4 - Morphological Adaptations (Provide supporting
9		data in Remarks or on a separate sheet)
10	7	Problematic Hydrophytic Vegetation¹ (Explain)
10	O = Total Cover	findicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size:)		be present, unless disturbed or problematic.
1		Hydrophytic
	= Total Cover	Vegetation Present? Yes 4 No 1
% Bare Ground in Herb Stratum.		
Remarks: Dogbane ove	afot n	
0	•	100 200
one a in ei	and Author	soils + hidro - hid dria
OWA IN E	UN UX LOUX,	Great Plain Version 2.0
US Army Corps of Engineers		

HTDROLOG1		
Wetland Hydrology Indicato	ors:	
Primary Indicators (minimum	of one required; check all that apply)	Secondary Indicators (minimum of two required)
Surface Water (A1)	Sait Crust (B11)	Surface Soil Cracks (B6)
High Water Table (A2)	Aquatic Invertebrates (B13)	Sparsely Vegetated Concave Surface (B8)
Saturation (A3)	Hydrogen Sulfide Odor (C1)	
Water Marks (B1)	Dry-Season Water Table (C2)	Oxidized Rhizospheres on Living Roots (C3)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living	Roots (C3) (where tilled)
Drift Deposits (B3)	(where not tilled)	Crayfish Burrows (C8)
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)	/Saturation Visible on Aerial Imagery (C9)
Iron Deposits (B5)	Thin Muck Surface (C7)	✓ Geomorphic Position (D2)
Inundation Visible on Aeri	rial Imagery (B7) Other (Explain in Remarks)	FAC-Neutral Test (D5)
Water-Stained Leaves (B	9)	Frost-Heave Hummocks (D7) (LRR F)
Field Observations:		
Surface Water Present?	Yes No/ Depth (inches):	
Water Table Present?	Yes No Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes No Depth (inches):	Wetland Hydrology Present? Yes No
Describe Recorded Data (stre	eam gauge, monitoring well, aerial photos, previous inspec	tions), if available:
	0.1	•
Remarks: hydralog ,	1- Hooding week	The second secon
9		
wet this	year ()	- ニ ス
- CXIOZOR (gango / peap con	er-2
JS Army Corps of Engineers	2 of 10 year also)	Great Plains Version 2.0

WETLAND DETERMINATION DATA FORM - Great Plains Region Project/Site: Rillnas Bupass City/County: Yellowstone Sampling Date: 7 State: MT Sampling Point: ____ Applicant/Owner: MD Investigator(s): L. Stragis, J. Gage Section, Township, Range: S1, TIN, R265 Landform (hillslope, terrace, etc.): Inc. Sect. Local relief (concave) convex, none): Slope (%): 27-6 Datum: __ _____ Lat: Subregion (LRR): NWI classification: PSE wettand Soil Map Unit Name: ____ Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____/ No _____ (If no, explain in Remarks.) Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? № Are "Normal Circumstances" present? Yes ____/ Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? $N_{\it 0}$ (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. No _____ Hydrophytic Vegetation Present? Is the Sampled Area Yes _____ No _____ Hydric Soil Present? within a Wetland? Wetland Hydrology Present? Remarks: Mirrigation underground & Smile Junnamed intermitent drainage w/pond VEGETATION - Use scientific names of plants. **Dominance Test worksheet:** Absolute Dominant Indicator % Cover Species? Status Tree Stratum (Plot size: Number of Dominant Species 1. RUSSIAM Olive E. angustifolia 20 / FACE That Are OBL, FACW, or FAC (A) (excluding FAC-): Total Number of Dominant Species Across All Strata: 20__ = Total Cover Percent of Dominant Species ____ (A/B) 1. Pussian olive Eangustfolis 20 1 FAC That Are OBL, FACW, or FAC: Sapling/Shrub Stratum (Plot size: ___ Prevalence index worksheet: Total % Cover of: Multiply by: OBL species _____ x 1 = ____ FACW species _____ x 2 = _____ FAC species _____ x 3 = ____ FACÚ species _____ x 4 = _____ Herb Stratum (Plot size: UPL species _____ x 5 = ____ Column Totals: _____ (A) ____ (B) Am, speedwell V; americana 40 Prevalence Index = B/A = ___ 45 f bull Fush S. microcarpus 75 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.01 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) 107) = Total Cover ¹Indicators of hydric soil and wetland hydrology must Woody Vine Stratum (Piot size: _____) be present, unless disturbed or problematic. 1. Hydrophytic Vegetation = Total Cover Present? % Bare Ground in Herb Stratum ____ Remarks:

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Profile Desc	ription: (Describe to the dep	oth needed to document the indicator or con	firm the absence of indicators.)
Depth	. Matrix	Redox Features	2
(inches)	Color (moist) %	Color (moist) % Type ¹ Loc	
0-6	10 YR 2/1		_ mudy mineral
6+cobb	<u>63</u>		
<u> </u>	·····		
Ì			
¹Type: C=Co	oncentration D=Depletion RM	=Reduced Matrix, CS=Covered or Coated Sand	d Grains. ² Location: PL=Pore Lining, M=Matrix.
		LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
Histosol		Sandy Gleyed Matrix (S4)	1 cm Muck (A9) (LRR I, J)
1	ipedon (A2)	Sandy Redox (S5)	Coast Prairie Redox (A16) (LRR F, G, H)
Black His	. , ,	Stripped Matrix (S6)	Dark Surface (S7) (LRR G)
	n Sulfide (A4)	Loamy Mucky Mineral (F1)	High Plains Depressions (F16)
	Layers (A5) (LRR F)	Loamy Gleyed Matrix (F2)	(LRR H outside of MLRA 72 & 73)
_	ck (A9) (LRR F, G, H)	Depleted Matrix (F3)	Reduced Vertic (F18)
; — ·	Below Dark Surface (A11)	Redox Dark Surface (F6)	Red Parent Material (TF2)
1	rk Surface (A12) ucky Mineral (S1)	Depleted Dark Surface (F7) Redox Depressions (F8)	Very Shallow Dark Surface (TF12) Other (Explain in Remarks)
. —	lucky Peat or Peat (\$2) (LRR (³ Indicators of hydrophytic vegetation and
	cky Peat or Peat (S3) (LRR F)	· · · · · · · · · · · · · · · · · · ·	wetland hydrology must be present,
	,	(,	unless disturbed or problematic.
Restrictive L	ayer (if present):		
Type:	jobble		
Depth (inc	hes):		Hydric Soil Present? Yes No
Remarks:			
10/0001 0/	***		
HYDROLO			
_	rology Indicators:		
	ators (minimum of one required		Secondary Indicators (minimum of two required)
1 /	Vater (A1)	Salt Crust (B11)	Surface Soil Cracks (B6)
	er Table (A2)	Aquatic Invertebrates (B13)	Sparsely Vegetated Concave Surface (B8)
Saturatio		Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)
Water Ma		Dry-Season Water Table (C2)	Oxidized Rhizospheres on Living Roots (C3)
	t Deposits (B2)	Oxidized Rhizospheres on Living Roc	NO 70
	osits (B3)	' (where not tilled)	Crayfish Burlows (C8)
_	t or Crust (B4)	Presence of Reduced Iron (C4)	Saturation Visible on Aerial Imagery (C9)
Iron Depo	` '	Thin Muck Surface (C7)	Geomorphic Position (D2)
	n Visible on Aerial Imagery (B	7) Other (Explain in Remarks)	FAC-Neutral Test (D5)
	ained Leaves (B9)		Frost-Heave Hummocks (D7) (LRR F)
Field Observ	,	011	
Surface Wate		No Depth (inches): 2 //	· · · · · · · · · · · · · · · · · · ·
Water Table F	Present? Yes 1		
Saturation Pre		No Depth (inches): W	etland Hydrology Present? Yes V No No
(includes capi		pitoring well periol photos, provious increation	s) if available:
Describe 1/60	orded Data (stream gauge, mo	nitoring well, aerial photos, previous inspection	o), ii available.
Remarks:			
Sim	ilan to J, di	ainae + Dand	
	/ 1	0 7 7	

	A HON DATA FORM - Great Flains Region
Project/Site: Silling Bupass	City/County: Sallows torus Sampling Date: 7/14/1/
Applicant/Owner: M DD J	State: M Sampling Point:
Investigator(s): L. Stroais, J. Gage	Section, Township, Range: SII, TIN, RQ6E
Landform (hillslope (ferrace) etc.): Inc. au Lu - Incls	ed Local relief (corricave, convex, none): Slope (%): 2-5
Subregion (LRR): G	at: Datum:
Soil Map Unit Name:	Description of the second seco
	e of year? Yes No (If no, explain in Remarks.)
Are Vegetation Soil or Hydrology signifi	ficantly disturbed? No Are "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology natura	ally problematic? \mathcal{N}_{0} (If needed, explain any answers in Remarks.)
	owing sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	Is the Sampled Area
Hydric Soil Present? Yes No	within a Wetland? Yes '\ No
Wetland Hydrology Present? Yes No	
Remarks:	Natural common but modified where use unaramed ite mi intergring & Smiland source whire parent of waste ditendent underground source
Wetland + water N/5 test wide along length	what we diten I waste diten underground source
silt fence , goo feetile, silt fence	ce = coloble laid in bed \$10 soil pot
VEGETATION – Use scientific names of plants.	\
Ab	osolute Dominant Indicator Dominance Test worksheet:
7100 Ottoriant (1.1010.201	Cover Species? Status Number of Dominant Species
1. Plains Cottmunor Pideltoide	20 FAC That Are OBL, FACW, or FAC (excluding FAC-):
3	Total Number of Dominant
4	Species Across All Strata: (B)
	Percent of Dominant Species That Are ORL FACW or FAC: 100 (A/B)
1. Plains Collenwood Pdattoids 3	
	Flevalance much workshop
3	Total % Cover of: Multiply by:
Δ	OBL species x 1 =
5.	FACW species x 2 =
	FAC species x3 = FACU species x4 =
Herb Stratum (Plot size:	30 V OBL UPL species x5 =
2. Reed can as arts Parundinagar	
3. Golden rod L. Camablemsis	15
4 Am speedwoll Viamericance 4	Prevalence Index = B/A =
5.	. Hydrophytic Vegetation Indicators:
6.	- Rapid Test for Hydrophydic Vegetation
7.	Z - Dominance rest is - con
8.	3 - Flevalence mack is =0.0
9	data in Remarks or on a separate sheet)
10	Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size:)	■ Total Cover Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1	
2	- Total Cover Vegetation
% Bare Ground in Herb Stratum	Present? Yes No
Remarks:	

US Army Corps of Engineers

Great Plains - Version 2.0

Sampling Point:

epth (Matrix		Red	ox Features			the absence of ir	
inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type ¹	Loc ²	Texture	Remarks
			•					
 								
	_	······································						
,	, S ₀ 5							
	± "			-				
		····						
	– ————— Concentration, D≕De	niotion DM-E	Poduced Matrix C	S=Covered 4	or Coate	i Sand Gr	aine ² l acation	n: PL=Pore Lining, M=Matrix.
	I Indicators: (Appli	···			*	a Ganta Gi		Problematic Hydric Soils ³ :
		ouble to all E					1 cm Muck	*
_ Histoso	Epipedon (A2)			Gleyed Matr Redox (S5)	IX (UM)			ie Redox (A16) (LRR F, G, H)
	Histic (A3)			d Matrix (S6)	1	12		ce (S7) (LRR G)
	gen Sulfide (A4)			Mucky Mine				Depressions (F16)
	ed Layers (A5) (LRR	(F)		Gleyed Matr				outside of MLRA 72 & 73)
-	fuck (A9) (LRR F, G			ed Matrix (F3			Reduced V	
	ed Below Dark Surfa			Dark Surface			Red Parent	
	Dark Surface (A12)	• • • • •		ed Dark Surfa				w Dark Surface (TF12)
	Mucky Mineral (S1).		Redox	Depressions	(F8)		Other (Expl	ain in Remarks)
	Mucky Peat or Peat		H) High P	ains Depres	sions (F1	6)	³ Indicators of hy	drophytic vegetation and
5 cm N	lucky Peat or Peat (53) (LRR F)	(MI	.RA 72 & 73	of LRR	H)	wetland hyd	Irology must be present,
							unless dist	irbed or problematic.
strictive	Layer (if present):			J.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
Type:			<u></u>					1
Denth (i	nches):						Hydric Soil Pres	sent? Yes <u>//</u> No
POPULU								· · · · · · · · · · · · · · · · · · ·
				1			1	
		ne-t00	much Ro	ek			J	
		ne-too	much Ro	ek			<u></u>	
		ne-too	much Ra	et Lhyv	\sim ,			
marks: Soil USe	pit not do - II -	ne-too	much Ro	et - hyv	~.	,	1	
marks: DOI! USE DROLO	pit not do -II - ogy		much Ro	et - hyx	~.	,		
marks: OI USE DROLO etland H	pit not do - II - OGY ydrology Indicators	;			~.	· · · · · · · · · · · · · · · · · · ·	Secondary In	dicators (minimum of two requires
marks: OI USE DROLO etland H mary Ind	pit not do II - OGY ydrology Indicators licators (minimum of	one required;	check all that app	ly)		,		
DROLO etland Hymary Ind	pit not do	one required;	check all that app	lv) : (B11)			Surface	Soil Cracks (B6)
DROLO ctland Himary Ind Surface High W	pit not do T1 DGY ydrology Indicators licators (minimum of e Water (A1) /ater Table (A2)	one required;	check all that app Salt Crust	ly) (B11) vertebrates	(B13)		Surface Sparsely	Soil Cracks (B6) Vegetated Concave Surface (B8)
marks: DROLC etland Hymary Ind Surface High W Satural	pit not do T1 - DGY ydrology Indicators licators (minimum of e Water (A1) /ater Table (A2) tion (A3)	one required;	check all that app Salt Crust Aquatic Ir Hydrogen	ly) (B11) vertebrates Sulfide Odo	(B13) r (C1)		Surface Sparsely Drainage	Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10)
DROLC etland H mary Ind Surface High W Satural	pit not do TI DGY ydrology Indicators licators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1)	one required;	check all that app Salt Crust Aquatic Ir Hydrogen Dry-Seas	ly) (B11) Ivertebrates Sulfide Odo on Water Tal	(B13) r (C1) ble (C2)		Surface Sparsely Drainage Oxidized	Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C
DROLC etland H mary Ind Surface High W Satural	pit not do T1 - DGY ydrology Indicators licators (minimum of e Water (A1) /ater Table (A2) tion (A3)	one required;	check all that app Salt Crust Aquatic Ir Hydrogen Dry-Seas Oxidized	ly) (B11) (vertebrates Sulfide Odo on Water Tal	(B13) r (C1) ble (C2)		Surface Sparsely Drainage Oxidized C3) (where	Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (Centilled)
DROLC etland Himary Ind Surface High W Satural Water I Sedime	pit not do TI DGY ydrology Indicators licators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1)	one required;	check all that app Salt Crust Aquatic Ir Hydrogen Dry-Seas Oxidized	ly) (B11) Ivertebrates Sulfide Odo on Water Tal	(B13) r (C1) ble (C2)		Surface Sparsely Drainage Oxidized C3) (where	Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C tilled) Burrows (C8)
DROLO etland H imary Ind Surface High W Satural Water I Sedime Drift De	pit not do T1 DGY ydrology Indicators licators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2)	one required;	check all that app Salt Crust Aquatic Ir Hydrogen Dry-Seas Oxidized (where	ly) (B11) (vertebrates Sulfide Odo on Water Tal	(B13) r (C1) ble (C2) s on Livi	ng Roots (Surface Sparsely Drainage Oxidized C3) (where	Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (Centilled)
DROLC etland Hy imary Ind Surface High W Satural Water Sedime Drift De	pit not do LT 1 DGY ydrology Indicators licators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3)	one required;	check all that app Salt Crust Aquatic Ir Hydrogen Dry-Seas Oxidized (where	ly) (B11) Ivertebrates Sulfide Odo on Water Tal Rhizosphere not tilled)	(B13) r (C1) ble (C2) s on Livi	ng Roots (Surface Sparsely Sparsely Drainage Oxidized C3) (where Crayfish Saturation	Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C tilled) Burrows (C8)
DROLC etland Hymary Ind Surface High W Satural Water I Sedime Drift De Algal M Iron De	pit not do T1 DGY ydrology Indicators licators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) //at or Crust (B4)	one required;	check all that app Salt Crust Aquatic Ir Hydrogen Dry-Seas Oxidized (where Presence	ly) (B11) Ivertebrates Sulfide Odo on Water Tal Rhizosphere not tilled) of Reduced	(B13) r (C1) ble (C2) s on Livi	ng Roots (Surface Sparsely Sparsely Drainage Oxidized C3) (where Crayfish Saturatio Geomore	Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (Cetilled) Burrows (C8) In Visible on Aerial Imagery (C9)
DROLC etland H mary Ind Surface High W Satural Water I Sedime Drift De Algal M Iron De Inunda	pit not do T1 DGY ydrology Indicators licators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) fat or Crust (B4) eposits (B5)	one required;	check all that app Salt Crust Aquatic Ir Hydrogen Dry-Seas Oxidized (where Presence	ly) (B11) vertebrates Sulfide Odo on Water Tal Rhizosphere not tilled) of Reduced Surface (C	(B13) r (C1) ble (C2) s on Livi	ng Roots (Surface Sparsely Sparsely Drainage Oxidized C3) (where Crayfish Saturatio Geomore FAC-Net	Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (Cetilled) Burrows (C8) No Visible on Aerial Imagery (C9) Shic Position (D2)
DROLC etland Hy mary Ind Satural Water I Sedime Drift De Algal N Iron De Inunda Water-	pit not do T1 DGY ydrology Indicators licators (minimum of e Water (A1) vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) flat or Crust (B4) eposits (B5) tion y isible on Aeria	one required;	check all that app Salt Crust Aquatic Ir Hydrogen Dry-Seas Oxidized (where Presence	ly) (B11) vertebrates Sulfide Odo on Water Tal Rhizosphere not tilled) of Reduced Surface (C	(B13) r (C1) ble (C2) s on Livi	ng Roots (Surface Sparsely Sparsely Drainage Oxidized C3) (where Crayfish Saturatio Geomore FAC-Net	Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (Cetilled) Burrows (C8) In Visible on Aerial Imagery (C9) In Cosition (D2) Intral Test (D5)
DROLO etland Hy mary Ind Surface High W Satural Water I Sedime Drift De Algal M Iron De Inunda Water- eld Obse	pit not do July ydrology Indicators licators (minimum of e Water (A1) vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Aat or Crust (B4) eposits (B5) tion visible on Aeria Stained Leaves (B9) ervations:	one required;	check all that app Salt Crust Aquatic Ir Hydrogen Dry-Seas Oxidized (where Presence Thin Mucl	ly) (B11) Ivertebrates Sulfide Odo on Water Tal Rhizosphere not tilled) of Reduced c Surface (C	(B13) r (C1) ble (C2) s on Livi lron (C4 7) arks)	ng Roots (Surface Sparsely Sparsely Drainage Oxidized C3) (where Crayfish Saturatio Geomore FAC-Net	Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (Cetilled) Burrows (C8) In Visible on Aerial Imagery (C9) In Cosition (D2) Intral Test (D5)
DROLO etland H imary Ind Surface High W Satural Water Sedime Algal M Iron De Inunda Water- eld Obse	pit not do T11 DGY ydrology Indicators licators (minimum of e Water (A1) vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) fat or Crust (B4) eposits (B5) tion yisible on Aeria Stained Leaves (B9) ervations: eter Present?	one required; Imagery (B7)	check all that app Salt Crust Aquatic Ir Hydrogen Dry-Seas Oxidized (where Presence Thin Mucl Other (Ex	ly) (B11) Ivertebrates Sulfide Odo on Water Tal Rhizosphere not tilled) of Reduced of Surface (Ci plain in Rem	(B13) r (C1) ble (C2) s on Livi lron (C4 7) arks)	ng Roots (Surface Sparsely Sparsely Drainage Oxidized C3) (where Crayfish Saturatio Geomore FAC-Net	Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (Cetilled) Burrows (C8) In Visible on Aerial Imagery (C9) In Cosition (D2) Intral Test (D5)
DROLO etland H imary Ind Surface High W Satural Sedime Drift De Algal M Iron De Inunda Water- eld Obse	pit not do T1 DGY ydrology Indicators licators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) fat or Crust (B4) eposits (B5) tion y isible on Aeria Stained Leaves (B9) ervations: ater Present? e Present?	one required; Imagery (B7) Yes No	check all that app Salt Crust Aquatic ir Hydrogen Dry-Seas Oxidized (where Presence Thin Mucl Other (Ex	ly) (B11) vertebrates Sulfide Odo on Water Tal Rhizosphere not tilled) of Reduced c Surface (C' plain in Rem	(B13) r (C1) ble (C2) s on Livi lron (C4) 7) arks)	ng Roots (Surface Sparsely Sparsely Drainage Oxidized C3) (where Saturatio Geomore FAC-Net Frost-He	Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (Cetilled) Burrows (C8) In Visible on Aerial Imagery (C9) In Position (D2) Itral Test (D5) ave Hummocks (D7) (LRR F)
Emarks: DROLO Surface High W Satural Water Sedime Iron De Inunda Water- eld Obse water Table aturation i	pit not do T1 DGY ydrology Indicators licators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) fat or Crust (B4) eposits (B5) tion Yisible on Aeria Stained Leaves (B9) ervations: ater Present? Present?	one required; Imagery (B7) Yes No	check all that app Salt Crust Aquatic Ir Hydrogen Dry-Seas Oxidized (where Presence Thin Mucl Other (Ex	ly) (B11) vertebrates Sulfide Odo on Water Tal Rhizosphere not tilled) of Reduced c Surface (C' plain in Rem	(B13) r (C1) ble (C2) s on Livi lron (C4) 7) arks)	ng Roots (Surface Sparsely Sparsely Drainage Oxidized C3) (where Crayfish Saturatio Geomore FAC-Net	Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (Cetilled) Burrows (C8) In Visible on Aerial Imagery (C9) In Position (D2) Itral Test (D5) ave Hummocks (D7) (LRR F)
emarks: DROLO etland H imary Ind Surface High W Satural Vater Sedime Drift De Inunda Water- eld Obse atter Table atteration includes ca	pit not do TTTT DGY ydrology Indicators licators (minimum of e Water (A1) vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) tion visible on Aeria Stained Leaves (B9) ervations: eter Present? e Present? Present? apillary fringe)	one required; Imagery (B7) Yes No Yes No	check all that app Salt Crust Aquatic ir Hydrogen Dry-Seas Oxidized (where Presence Thin Muct Other (Ex	ly) (B11) Ivertebrates Sulfide Odo on Water Tal Rhizosphere not tilled) of Reduced of Surface (Ci plain in Rem inches):	(B13) r (C1) ble (C2) s on Livi iron (C4) 7) arks)	ng Roots (Surface Sparsely Sparsely Drainage Oxidized C3) (where Saturatio Geomore FAC-Net Frost-He	Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (Cetilled) Burrows (C8) In Visible on Aerial Imagery (C9) In Position (D2) Itral Test (D5) ave Hummocks (D7) (LRR F)
Emarks: DROLO etland H imary Ind Surface High W Satural Vater Sedime Orift De Inunda Water- eld Obse atter Table atteration includes ca	pit not do T1 DGY ydrology Indicators licators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) fat or Crust (B4) eposits (B5) tion Yisible on Aeria Stained Leaves (B9) ervations: ater Present? Present?	one required; Imagery (B7) Yes No Yes No	check all that app Salt Crust Aquatic ir Hydrogen Dry-Seas Oxidized (where Presence Thin Muct Other (Ex	ly) (B11) Ivertebrates Sulfide Odo on Water Tal Rhizosphere not tilled) of Reduced of Surface (Ci plain in Rem inches):	(B13) r (C1) ble (C2) s on Livi iron (C4) 7) arks)	ng Roots (Surface Sparsely Sparsely Drainage Oxidized C3) (where Saturatio Geomore FAC-Net Frost-He	Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (Cetilled) Burrows (C8) In Visible on Aerial Imagery (C9) In Position (D2) Itral Test (D5) ave Hummocks (D7) (LRR F)
DROLO etland H imary Ind Surface High W Satural Water Sedime Drift De Algal M Iron De Inunda Water- eld Obse ater Table aturation I coludes co	pit not do TTTT DGY ydrology Indicators licators (minimum of e Water (A1) vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) tion visible on Aeria Stained Leaves (B9) ervations: eter Present? e Present? Present? apillary fringe)	one required; Imagery (B7) Yes No Yes No	check all that app Salt Crust Aquatic ir Hydrogen Dry-Seas Oxidized (where Presence Thin Muct Other (Ex	ly) (B11) Ivertebrates Sulfide Odo on Water Tal Rhizosphere not tilled) of Reduced of Surface (Ci plain in Rem inches):	(B13) r (C1) ble (C2) s on Livi iron (C4) 7) arks)	ng Roots (Surface Sparsely Sparsely Drainage Oxidized C3) (where Saturatio Geomore FAC-Net Frost-He	Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (Cetilled) Burrows (C8) In Visible on Aerial Imagery (C9) In Position (D2) Itral Test (D5) ave Hummocks (D7) (LRR F)
DROLO etland H imary Ind Surface High W Satural Vater Sedime Drift De Iron De Inunda Water- eld Obse urface Water ater Table turation is cludes crescribe R	pit not do TTTT DGY ydrology Indicators licators (minimum of e Water (A1) vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) tion visible on Aeria Stained Leaves (B9) ervations: eter Present? e Present? Present? apillary fringe)	one required; Imagery (B7) Yes No Yes No Yes No The gauge, mon	check all that app Salt Crust Aquatic Ir Hydrogen Dry-Seas Oxidized (where Presence Thin Muct Other (Ex	ly) (B11) Ivertebrates Sulfide Odo on Water Tal Rhizosphere not tilled) of Reduced of Surface (C' plain in Rem inches): inches): inches): photos, prev	(B13) r (C1) ble (C2) s on Livi iron (C4) 7) arks)	ng Roots (Surface Sparsely Sparsely Drainage Oxidized C3) (where Saturatio Geomore FAC-Net Frost-He	Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (Cetilled) Burrows (C8) In Visible on Aerial Imagery (C9) In Position (D2) Itral Test (D5) ave Hummocks (D7) (LRR F)

WETLAND DETERMINATION DATA FORM - Great Plains Region Byruss, Whry St City/County: Gellowstone Sampling Date: 7/14/11 Applicant/Owner: MOT State: MT Sampling Point: Jamestigator(s): L. Stragis J. Gage Section, Township, Range: S/I TIN / R265 Local relief (concave, convex, none): ______ Slope (%); ____ Landform (hillslope, terrace) etc.): ____Lat:_______Long:______ Subregion (LRR): ____ NWI classification: upland Soil Map Unit Name: ____ Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.) Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? $\bigvee \mathcal{V}$ Are "Normal Circumstances" present? Yes \bigvee Are Vegetation _____, Soil _____ or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Is the Sampled Area Hydric Soil Present? within a Wetland? Yes No / Wetland Hydrology Present? Remarks: **VEGETATION** – Use scientific names of plants. Dominance Test worksheet: Absolute Dominant Indicator Tree Stratum (Plot size: _____) % Cover Species? Status Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): Total Number of Dominant Species Across All Strata: ____ = Total Cover Percent of Dominant Species Sapling/Shrub Stratum (Plot size: ____) ___ (A/B) That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species _____ x 1 = ____ FACW species _____ x 2 = _____ FAC species _____ x 3 = ____ ____ = Total Cover FACU species _____ x.4.= UPL species _____ x 5 = ____ Column Totals: _____ (A) ____ (B) Prevalence Index = B/A = _____ Silsifia Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.01 4 - Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation¹ (Explain) 100 + = Total Cover ¹Indicators of hydric soil and wetland hydrology must Woody Vine Stratum (Plot size: _____) be present, unless disturbed or problematic. Hydrophytic Vegetation = Total Cover Present? % Bare Ground in Herb Stratum ____ Remarks:

Sampling Point:

	cription: (Desc	ribe to t	he depth ne				or confirm	n the absence of	indicators.)
Depth (inches)	Mat Color (mois		0/ 0-	······	x Feature	S Tun o 1	Loc²	Texture	Remarks
(inches)		/_ -	<u>% Co</u>	olor (moist)	%	туре		Texture	Remarks
<u> </u>	10 YR 3	<u> </u>							
	/								
······		······································	············						
	***************************************						***************************************		
						1			•
,	-								

	oncentration, D= Indicators: (Ap						d Sand G		on: PL=Pore Lining, M=Matrix. r Problematic Hydric Solls ³ :
		pindabile	to all Livivs						•
Histosol	, ,				Gleyed Ma				k (A9) (LRR I, J)
	pipedon (A2)				Redox (\$5				hirie Redox (A16) (LRR F, G, H)
	istic (A3)				d Matrix (S	•			ace (S7) (LRR G) ns Depressions (F16)
	en Sulfide (A4) d Layers (A5) (L	DD E/			Mucky Mir Gleyed Ma				H outside of MLRA 72 & 73)
	uck (A9) (LRR F,				d Matrix (I	- ,		•	Vertic (F18)
	d Below Dark Su		11)	-	o iyiatiix (i Dark\Surfa	•			nt Material (TF2)
	ark Surface (A12		,			rface (F7)			low Dark Surface (TF12)
	lucky Mineral (S	*			Depression				plain in Remarks)
	Mucky Peat or Pe		(LRR G. H)	High Pla			16)		nydrophytic vegetation and
	icky Peat or Pea					3 of LRR			/drology must be present,
	•	, , ,	,	•			,	•	turbed or problematic.
Restrictive I	Layer (if presen	t):			***************************************	***************************************	***************************************		
Type:	Hardpan								
Depth (in	ches):							Hydric Soil Pre	esent? Yes No
Remarks:			······································					.4	
							•		
									·
IVDBOL O	CV					•			***************************************
YDROLO	drology Indicate								
-	cators (minimum		aquirad: chac	ek all that anni		•	•	Secondary	Indicators (minimum of two required)
		Of OHE IS	equired, chec						
	Water (A1)			Salt_Crust					Soil Cracks (B6)
	ter Table (A2)		-	Aquatic Inv					ly Vegetated Concave Surface (B8)
Saturatio			-	Hydrogen					ge Patterns (B10)
	arks (BN)			Dry-Seaso		, ,			d Rhizospheres on Living Roots (C3
	nt Deposits (B2)		-	Oxidized F		res on Livi	ng Roots (re tilled)
	oosits (B3)			(where r	not tilled)			•	h Burrows (C8)
	nt or Crust (B4)		_	Presence	of Reduce	d Iron (C4)	Saturat	ion Visible on Aerial Imagery (C9)
Iron Dep	osits (B5)		_	Thin Muck	Surface (C7)		Geomo	rphic Position (D2)
Inundatio	on Visible on Ae	rial Imag	ery (BX)	Other (Exp	lain in Re	marks)		FAC-Ne	eutral Test (D5)
Water-S	tained Leaves (E	39)	1					Frost-H	eave Hummocks (D7) (LRR F)
Field Obser	vations:								
Surface Wate	er Present?	Yes	No	Depth (inc	ches):				
Nater Table				Depth (inc					
							4	حادث والمساود المراس	ronant? Voc. No.
Saturation Pr includes cap		res	1 ₁ 10	Depth (inc	ines):		- Wetia	and Hydrology Pl	resent? Yes No
	corded Data (stre	eam gau	ge, monitorin	g well, aerial r	photos, pre	evious insp	ections).	if available:	
	•	-	- :	- ·	• •		,,		
Remarks:			·						
williams.									

L2 wetlands usited 8/25/2011. Unchanged.

DATA FORM ROUTINE WETLAND DETERMINATION

(1987 COE Wetlands Delineation Manual)

			2000	c:				Date:	8/21/20	107			
Project Site:	***************************************	ngs Bypass ntana Department	of Trans	nortation				County:	Yellow				
Applicant/Owner: Investigator:	7; <u>IVIO</u>	ST, DAAR, DEJG	. Ut Trails	portation	1			State:	MT				_
					T 8-7 T \Z		Mo	Community ID:	Wetlan	<u>.</u>			-
Do Normal Circums					Yes Yes		No No	Transect ID:	B1 Soi	ith/C1 No	orth		
Is the site significar	ntly disturb	oed (Atypical Situatio Area? <i>(if needed, exp</i>	NN)? Nain an ra	worea!	Yes	N	No No	Plot ID:	L2A				
is Area a Potential	Problem	Alea? (Il needed, exp	Maill Off Te	ve130)	L <u>L</u> J . • •						· · · · · · · · · · · · · · · · · · ·		
VEGETATION									USe	LUB	as up	land	C
Dominant Plant Specie	ies		Percent	Stratum	Indicator	Domina	nt Plant Spe	cies		Percent	Stratum	Indicato	
1 Meadow foxtail (pratensis)	90%	Н	FACW	8				%			\dashv
Scirpus sp.			5%	H	FAC	9				%			
3 Smooth horsetail 4	il (Equisetur	n laevigatum)	5%	 	100	11				%	-		
5			%	ļ		12				%			
7		,.,. <u></u>	%	 	<u> </u>	14				%]		-
Percent of Domina	int Species	s that are OBL, FAC		(excluding	FAC-): 100	%							
Remarks: A fe	NA Russian	olive trees on perim	neter. Gras	sses are c	losely grazed,	a few he	ads found.						
Memana. And	104 of the d	ominant plant specie	e are FAC	nr wetter	therefore vec	aetation is	s hydrophyl	tic.					
100	of the u	ommani piani specie	ss are i Ac	o weller	, (1101010101010;	,							
Ĺ					······								
HYDROLOGY													
					11,,,1,_1,_1,_	, Indicata	re:						
Recorded Da	ata (descri	ibe in Remarks) e, or Tide Gauge			and Hydrolog) Primary Indica		10.		Secondary India	ators (2 o	more requ	iired):	20000
	ream, Lak erial Photo			ĺÍ	Inund	lated					nannels in U	Jpper 12"	
Ott	ther						pper 12 inc	hes		Stained Le Soil Survey			ļ
☐ No recorded		lable				r Marks				eutral Tes			1
Field Observations		0.5	(la)			Lines nent Dep	osits			explain in			
Depth of Surfact Depth to Free V		0-5 t: 1	(ln.) (ln.)	1 1			erns in Wet	lands					ı
Depth to Satura		" 0	(in.)	'		_							
											.,		
Remarks: Port	tions inun			ralaau fran	a controlled ca	nal and r	verflow fro	m west wetland.					1
H		dated; portions satur	ated. Hydi	rology fron	n controlled ca	anal and o	overflow fro	m west wetland.					
		dated; portions satur	ated. Hydi	rology fron	n controlled ca	anal and o	overflow fro	m west wetland.					
	,	dated; portions satur	ated. Hydi	rology fron	n controlled ca	anal and o	overflow fro	m west wetland.			.,,,,,	· · · · · · · · · · · · · · · · · · ·	
		dated; portions satur	ated. Hydi	rology fron	n controlled ca	anal and d	overflow fro	m west wetland.					
SOILS					n controlled ca	anal and c	overflow fro		e: Poorly drainer	1		Circle	
SOILS Map Unit Name (S	, Series and		ated. Hydi		n controlled ca	anal and c	overflow fro	Drainage Class	s: Poorly drained	i lapped Tyl	pe? Yes	<i>Circle</i> s No	
SOILS	, Series and				n controlled ca	anal and d	overflow fro	Drainage Class	s: Poorly drainet ations Confirm N	i lapped Tyl	pe? Yes		
SOILS Map Unit Name (S	, Series and	Phase): An - All	uvial land,			anal and d		Drainage Class Field Observa	ations Confirm N	lapped Ty		s No	
SOILS Map Unit Name (S Taxonomy (Subgro	Series and oup):	Phase): An - Alli	uvial land,		Motitie Colors		Mottl	Drainage Class	ations Confirm M	lapped Ty	pe? Yes	s No	
SOILS Map Unit Name (S Taxonomy (Subgroup Profile Description: Depth (inches)	Series and roup): Horizon	Phase): An - All	uvial land,	wet	Mottle Colors (Munsell Möist)		Mottl SI:	Drainage Class Field Observation	ations Confirm V Texture Clay loam	lapped Ty		s No	
SOILS Map Unit Name (S Taxonomy (Subgro	Series and oup):	Phase): An - Alli Matrix Color (Munsell Mois	uvial land,	wet	Mottle Colors (Munsell Moist)		Mottl SI:	Drainage Class Field Observa e Abundance/ ze/Contrast nall, distinct	ations Confirm M	lapped Ty		s No	
SOILS Map Unit Name (S Taxonomy (Subgroup Profile Description: Depth (inches) 0-4 A	Series and oup):	Phase): An - Alli Matrix Color (Munsell Mois 2.5Y 4/2	uvial land,	wet	Mottle Colors (Munsell Moist)		Mottl SI:	Drainage Class Field Observa e Abundance/ ze/Contrast nall, distinct	ations Confirm V Texture Clay loam	lapped Ty		s No	
SOILS Map Unit Name (S Taxonomy (Subgroup Profile Description: Depth (inches) 0-4 A	Series and oup):	Phase): An - Alli Matrix Color (Munsell Mois 2.5Y 4/2	uvial land,	wet	Mottle Colors (Munsell Moist)		Mottl SI:	Drainage Class Field Observa e Abundance/ ze/Contrast nall, distinct	ations Confirm V Texture Clay loam	lapped Ty		s No	
SOILS Map Unit Name (S Taxonomy (Subground Profile Description: Depth (inches) 0-4 4-14 A	Geries and roup): Horizon	Phase): An - Alli Matrix Color (Munsell Mois 2.5Y 4/2	uvial land,	wet	Mottle Colors (Munsell Moist)		Mottl SI:	Drainage Class Field Observe e Abundance/ ze/Contrast	Texture Clay loam Sand	apped Ty	ns, Structure,	s No	
SOILS Map Unit Name (S Taxonomy (Subgroup Profile Description: Depth (inches) 10-4 4-14 4-14 Hydric Soil Indicate	Geries and roup): Horizon	Phase): An - Alli Matrix Color (Munsell Mois 2.5Y 4/2	uvial land,	2.5Y 3/ 7.5YR	Mottle Colors (Munsell Moist) 0 4/6		Mottl SI:	Drainage Class Field Observe e Abundance/ ze/Contrast nall, distinct nt High Organic Co	Texture Clay loam Sand	apped Ty	ns, Structure,	s No	
SOILS Map Unit Name (S Taxonomy (Subgroup Profile Description: Depth (Inches) 10-4 4-14 Available Hydric Soil Indicate Histosol	Series and oup): Horizon /B	Phase): An - Alli Matrix Color (Munsell Mois 2.5Y 4/2	uviat land,	2.5Y 3/ 7.5YR	Mottle Colors (Munsell Moist) 0 4/6		Mottl SI: Many, sn Prominer	Drainage Class Field Observated Contrast nall, distinct High Organic Co	Texture Clay loam Sand Ontent in Surface all Hydric Soits L	e, Concretion	ns, Structure,	s No	
SOILS Map Unit Name (S Taxonomy (Subgroup Profile Description: Depth (inches) 10-4 4-14 4-14 Hydric Soil Indicate	Series and oup): Horizon //B tors:	Phase): An - Alli Matrix Color (Munsell Mois 2.5Y 4/2	uviat land,	2.5Y 3/ 7.5YR	Mottle Colors (Munsell Moist) 0 4/6 Conditions ow-Chroma Cs	colors	Mottr SI Many, sn Prominer	Drainage Class Field Observa e Abundance/ ze/Contrast nall, distinct nt High Organic Co Listed on Nation Listed on Local	Texture Clay loam Sand Ontent in Surface all Hydric Soils List	e, Concretion	ns, Structure,	s No	
SOILS Map Unit Name (S Taxonomy (Subground Frofile Description: Depth (inches) - 1 0-4 A 4-14 A/ Hydric Soil Indicate Histosol Histic Epipee	Series and roup): Horizon /B tors:	Phase): An - Alle Matrix Color (Munsell Mois 2.5Y 4/2 2.5Y 4/2	uviat land,	2.5Y 3/ 7.5YR	Mottle Colors (Munsell Moist) 0 4/6 Conditions	colors	Mottl SI: Many, sn Prominer	Drainage Class Field Observated Contrast nall, distinct High Organic Co	Texture Clay loam Sand Ontent in Surface all Hydric Soils List	e, Concretion	ns, Structure,	s No	
SOILS Map Unit Name (S Taxonomy (Subgroup (Subgroup)) Profile Description: Depth (Inches)	Series and oup): Horizon /B tors: edon or , ture Regim	Phase): An - Alli Matrix Color (Munsell Mois 2.5Y 4/2 2.5Y 4/2	uvial land,	2.5Y 3/ 7.5YR	Mottle Colors (Munsell Moist) 0 4/6 Conditions ow-Chroma Cs	colors	Mottr SI Many, sn Prominer	Drainage Class Field Observa e Abundance/ ze/Contrast nall, distinct nt High Organic Co Listed on Nation Listed on Local	Texture Clay loam Sand Ontent in Surface all Hydric Soils List	e, Concretion	ns, Structure,	s No	
SOILS Map Unit Name (S Taxonomy (Subgroup (Subgroup)) Profile Description: Depth (Inches)	Series and oup): Horizon /B tors: edon or , ture Regim	Phase): An - Alle Matrix Color (Munsell Mois 2.5Y 4/2 2.5Y 4/2	uvial land,	2.5Y 3/ 7.5YR	Mottle Colors (Munsell Moist) 0 4/6 Conditions ow-Chroma Cs	colors	Mottr SI Many, sn Prominer	Drainage Class Field Observa e Abundance/ ze/Contrast nall, distinct nt High Organic Co Listed on Nation Listed on Local	Texture Clay loam Sand Ontent in Surface all Hydric Soils List	e, Concretion	ns, Structure,	s No	
SOILS Map Unit Name (S Taxonomy (Subgroup (Subgroup)) Profile Description: Depth (Inches)	Series and oup): Horizon /B tors: edon or , ture Regim	Phase): An - Alli Matrix Color (Munsell Mois 2.5Y 4/2 2.5Y 4/2	uvial land,	2.5Y 3/ 7.5YR	Mottle Colors (Munsell Moist) 0 4/6 Conditions ow-Chroma Cs	colors	Mottr SI Many, sn Prominer	Drainage Class Field Observa e Abundance/ ze/Contrast nall, distinct nt High Organic Co Listed on Nation Listed on Local	Texture Clay loam Sand Ontent in Surface all Hydric Soils List	e, Concretion	ns, Structure,	s No	
SOILS Map Unit Name (S Taxonomy (Subground Frofile Description: Depth (inches)	Series and oup): Horizon /B tors: edon or , ture Regim	Phase): An - Alli Matrix Color (Munsell Mois 2.5Y 4/2 2.5Y 4/2	uvial land,	2.5Y 3/ 7.5YR	Mottle Colors (Munsell Moist) 0 4/6 Conditions ow-Chroma Cs	colors	Mottr SI Many, sn Prominer	Drainage Class Field Observa e Abundance/ ze/Contrast nall, distinct nt High Organic Co Listed on Nation Listed on Local	Texture Clay loam Sand Ontent in Surface all Hydric Soils List	e, Concretion	ns, Structure,	s No	
SOILS Map Unit Name (S Taxonomy (Subground Frofile Description: Depth (inches)	Horizon Horizon tors: edon or ture Regim	Matrix Color (Munsell Mois 2.5Y 4/2 2.5Y 4/2	uvial land,	2.5Y 3/ 7.5YR	Mottle Colors (Munsell Moist) 0 4/6 Conditions ow-Chroma Cs	colors	Mottr SI Many, sn Prominer	Drainage Class Field Observa e Abundance/ ze/Contrast nall, distinct nt High Organic Co Listed on Nation Listed on Local	Texture Clay loam Sand Ontent in Surface all Hydric Soils List	e, Concretion	ns, Structure,	s No	
SOILS Map Unit Name (S Taxonomy (Subgroup (Subgroup)) Profile Description: Depth (Inches)	Horizon Horizon tors: edon or ture Regim	Matrix Color (Munsell Mois 2.5Y 4/2 2.5Y 4/2	uvial land,	2.5Y 3/ 7.5YR	Mottle Colors (Munsell Moist) 0 4/6 Conditions Low-Chroma Cs reaking in San	Colors dy Soils	Mottl SI: Many, sn Prominer	Drainage Class Field Observa e Abundance/ ze/Contrast nall, distinct ht High Organic Co Listed on Natior Listed on Local Other (explain in	Texture Clay loam Sand Ontent in Surface all Hydric Soils List n remarks)	- Concretion - Concretion - Layer in Sist	s, Structure,	s No	
SOILS Map Unit Name (S Taxonomy (Subgroup (Subgroup)) Profile Description: Depth (Inches)	Horizon /B tors: edon or ture Regimackened ch	Matrix Color (Munsell Mois 2.5Y 4/2 2.5Y 4/2	uvial land,	wet 2.5Y 3/ 7.5YR Reducing Concretions Organic Str	Mottle Colors (Munsell Moist) 0 4/6 Conditions ow-Chroma Cs reaking in San	Colors dy Soils	Mottl SI: Many, sn Prominer	Drainage Class Field Observa e Abundance/ ze/Contrast nall, distinct nt High Organic Co Listed on Nation Listed on Local	Texture Clay loam Sand Ontent in Surface all Hydric Soils List n remarks)	e, Concretion	s, Structure,	s No	
SOILS Map Unit Name (S Taxonomy (Subground Frofile Description: Depth (Inches) 10-4 A	Horizon Horizon /B tors: edon or ture Regim ackened ct	Matrix Color (Munsell Mois 2.5Y 4/2 2.5Y 4/2 2.5Y 4/2 ATION sent?	uvial land,	wet 2.5Y 3/ 7.5YR / Reducing Concretions Organic Str	Mottle Colors (Munsell Moist) 0 4/6 Conditions Conditions Cow-Chroma Cos reaking in San	Colors dy Soils	Mottl SI: Many, sn Prominer	Drainage Class Field Observa e Abundance/ ze/Contrast nall, distinct ht High Organic Co Listed on Natior Listed on Local Other (explain in	Texture Clay loam Sand Ontent in Surface all Hydric Soils List n remarks)	- Concretion - Concretion - Layer in Sist	s, Structure,	s No	
SOILS Map Unit Name (S Taxonomy (Subground Frofile Description: Depth (inches) 1	Horizon Horizon /B tors: edon or ture Regim ackened ct	Matrix Color (Munsell Mois 2.5Y 4/2 2.5Y 4/2 2.5Y 4/2 ATION sent?	uvial land,	vet 2.5Y 3/ 7.5YR Reducing Concretions Organic Str	Mottle Colors (Munsell Moist) 0 4/6 Conditions Conditions Cow-Chroma Cos reaking in San	Colors dy Soils	Mottl SI: Many, sn Prominer	Drainage Class Field Observa e Abundance/ ze/Contrast nall, distinct ht High Organic Co Listed on Natior Listed on Local Other (explain in	Texture Clay loam Sand Ontent in Surface all Hydric Soils List n remarks)	- Concretion - Concretion - Layer in Sist	s, Structure,	s No	
SOILS Map Unit Name (S Taxonomy (Subground Subground Su	Horizon Horizon /B tors: edon or ture Regim ackened cl	Phase): An - Alli Matrix Color (Munsell Mois 2.5Y 4/2 2.5Y 4/2 ne nar materials in top la ATION sent?	uvial land,	wet 2.5Y 3/ 7.5YR / Reducing Concretions Organic Str	Mottle Colors (Munsell Moist) 0 4/6 Conditions Conditions Cow-Chroma Cos reaking in San	Colors dy Soils	Mottl SI: Many, sn Prominer	Drainage Class Field Observa e Abundance/ ze/Contrast nall, distinct ht High Organic Co Listed on Natior Listed on Local Other (explain in	Texture Clay loam Sand Ontent in Surface all Hydric Soils List n remarks)	- Concretion - Concretion - Layer in Sist	s, Structure,	s No	
SOILS Map Unit Name (S Taxonomy (Subgrate Profile Description: Depth (inches) F	Horizon Horizon /B tors: edon or ture Regim ackened cl	Matrix Color (Munsell Mois 2.5Y 4/2 2.5Y 4/2 2.5Y 4/2 ATION sent?	uvial land,	wet 2.5Y 3/ 7.5YR / Reducing Concretions Organic Str	Mottle Colors (Munsell Moist) 0 4/6 Conditions Conditions Cow-Chroma Cost reaking in San	Colors dy Soils	Mottl SI: Many, sn Prominer	Drainage Class Field Observa e Abundance/ ze/Contrast nall, distinct ht High Organic Co Listed on Natior Listed on Local Other (explain in	Texture Clay loam Sand Ontent in Surface all Hydric Soils List n remarks)	- Concretion - Concretion - Layer in Sist	s, Structure,	s No	

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DATA FORM wetland delineation boundary ROUTINE WETLAND DETERMINATION adjusted. Grazing by (1987 COE Wetlands Delineation Manual) cattle. in wetland,

		(1987 C	DE Wetlands L)elineatio	on ivianua	CERTIFIC.		ww	* (25,24)	
	s Bypass na Department of T	ranenortati	n .					07 stone		
	DMKR, DEJG	ianoportati				State:	MT			
Do Normal Circumstances exist	on the site?		⊠ Yes		No	Community ID:	Wetland	d		
Is the site significantly disturbed	(Atypical Situation)?		Yes	Ø	No	Transect ID:	B1			
Is Area a Potential Problem Area	a? (if needed, explain o	on reverse)	Yes		No	Plot ID:	L4A			

VEGETATION	Por	cent Stratu	n Indicator	Domina	ni Plant Spec	ies		Percent	Stratum	Indicator
Dominant Plant Species 1 Common sunflower (Helianthus			FACU	8				%		
Three-square bulrush (Scirpus p	pungens) 50%		OBL OBL	9 10				%		
3 Broadleaved cattail (Typha latifo 4 Baltic rush (Juncus arcticus)	10%	6 H	OBL	11				%		
5 Witchgrass (Panicum capillare)	<5%	% H	FAC	12 13				%		
7		%		14				1 76		_l
Percent of Dominant Species th			ng FAC-): 100)%						
Remarks: Most of wetland i	is cattail, periphery is b iinant plant species are	eulrush. FAC or wet	ter, therefore veç	getation is	hydrophyti	c.				
HYDROLOGY										
Recorded Data (describe Stream, Lake, o Aerial Photogra	or Tide Gauge	W	etland Hydrology <i>Primary Indica</i> Inund	tors: lated		X	Oxidize	ators (2 or d Root Ch Stained Le	more requi	ired): Ipper 12*
☐ Other	•		Band .	ated in U _l r Marks	oper 12 incl	nes 🔲	Local S	ioil Survey	Data	
No recorded data available Field Observations:	le		Drift (Lines				eutral Tes		
Depth of Surface Water:		(In.)		nent Dep	osits erns in Wetl	ands	_] Other (explain in	remains)	İ
Depth to Free Water in Pit: Depth to Saturated Soil:	<u>8</u>	(ln.) (ln.)	LI Diam	age rau	1113 111 1100	undo				
Remarks: Hydrology is pre:	sent.									
SOILS									NAME OF TAXABLE PARTY.	
Map Unit Name (Series and Ph Taxonomy (Subgroup):	nase): <u>Am - Alluvial</u>	land, seepe	d			Drainage Class: Poo Field Observations	rty drained Confirm M	I apped Ty	pe? Yes	Circle No
Profile Description:					Markia A	bundance/ Size/Contrast				
Depth (inches) Horizon	Matrix Color (Munsell Moist)		Mottle Colors (Munsell Moist)						etions, Struct	ure, etc.
	.5Y 5/2		R 4/6			medium, prominent arse, promiment	Sandy	silt loam		
		1041	R 3/1		Wally, CO	aroo, promission				
							_1			
Hydric Soil Indicators:		1 Paducin	g Conditions			High Organic Content	in Surface	Layer in S	Sandy Soils	
Histosol Histic Epipedon			r Low-Chroma C	Colors		Listed on National Hyd	tric Soils L	ist		
Sulfidic Odor				du Saile		Listed on Local Hydric Other (explain in rema	rks) : Soliš įtist			
Aquic Moisture Regime	[_ <u>E</u>	Organic	Streaking in San	luy Guils						
Remarks: Meets criteria fo	or hydric soil.									
	•									
WETLAND DETERMINAT	ION									
Hydrophytic Vegetation Preser	nt?			this Samp	ling Point V	Vithin a Wetland?	Yes Yes	וען	10	
Wetland Hydrology Present?	12:	Yes Yes	□ No No					•		
Hydric Soils Present?									,,,,,	
Remarks: Small portion of	f larger wetland. No pe	rmission to a	ccess the rest; t	out visible					÷	

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DATA FORM ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

1	1,,	987 COE	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,								
							Date:	8/22/2	007		
Project Site: Billings Bypass	of Trans	nortation					County:	Yellow	stone		
Applicant/Owner: Montana Department	of Irans	portation					State:	MT			
Investigator: LXST, DAAR, DEJG							- it. ID:	Upland	·		
Do Normal Circumstances exist on the site?				Yes		No	Community ID: Transect ID:	B1	1		
Is the site significantly disturbed (Atypical Situation	on)?			Yes	⊠ 52	No	Plot ID:	L4B			
Is Area a Potential Problem Area? (if needed, ex	olain on rev	rerse)		Yes		No	PIOUID.				CERTIFICATION AND ADDRESS OF THE PERSON AND
VEGETATION	·								Percent	Stratum	Indicator
Dominant Plant Species	Percent	Stratum		icator		nt Plant Spe	icies		%		
1 Ballic rush (Juncus arcticus)	50% 20%	H	OBI FAC		8				%		
White clover (Trifolium repens) Yellow sweet clover (Melilotus officinalis)	%	H	FA		10				%		
4 Sonchus so.	15%	H	NI FA	CII	11 12				%		
5 Kentucky bluegrass (Poa pratensis)	15%	Н	-FW/	<u></u>	13				%		┼──╢
7	%	<u> </u>			14				/9		-L
Percent of Dominant Species that are OBL, FAC	W or FAC	(excluding	FAC-)	: 50%							
Remarks: Upland plot is not representative of Dominant vegetation is not hydrogen		tation in gr	azed p	oortion to	the nor	th, but is I	the Hwy 312 ngai	-01-way.			
HYDROLOGY											
Recorded Data (describe in Remarks)		Wetla	and Hy	/drology	Indicato	s:		Secondary Indi	foro /2 n	mora radu	ired):
Stream, Lake, or Tide Gauge		Į.		y Indicat			1	Secondary Indi	ed Root Ch	annels in U	Ipper 12"
Aerial Photographs			8	Inunda Satura		oper 12 in	ches	☐ Water	Stained Le	aves	
Other No recorded data available					Marks			Local	Soil Survey leutral Tes	Data	
Field Observations:				Drift L		14 .			(explain in		
Depth of Surface Water:	·····	-		Sedim	ent Dep	osits erns in We	tlands	LL J Oute.	(Onplant III	,	
Depth to Free Water in Pit:	(in.) (in.)	L	<u> </u>] Diame	ge i aiii						.
Depth to Saturated Soil:											
Romarks: No wetland hydrology.		,									
Remarks: No wetland hydrology. SOILS May Hall Name (Series and Phase): Am - A	lluvial land	, seeped					Drainage Class	: Poorly draine	d		Circle No.
SOILS	lluvial land	, seeped					Drainage Class Field Observa	: Poorty draine ations Confirm I	d Mapped Ty	pe? Yes	8
SOILS Map Unit Name (Series and Phase): Am - A Taxonomy (Subgroup): Profile Description:		, seeped	Mottle	3 Colors			Field Observa	ations Confirm I	Mapped Ty		s No
SOILS Map Unit Name (Series and Phase):Am - A Taxonomy (Subgroup): Profile Description:	or	, seeped	Mottle (Munse	a Colors ell Moist)			Field Observa	ations Confirm I	Mapped Ty		s No
SOILS Map Unit Name (Series and Phase): Am - A Taxonomy (Subgroup): Profile Description: Matrix Col	or	, seeped	Mottle (Munse	o Colors ell Moist)			Field Observa	ations Confirm I	Mapped Ty		s No
SOILS Map Unit Name (Series and Phase):Am - A Taxonomy (Subgroup): Profile Description:Matrix Coll Depth (inches)	or	, seeped	Mottle (Munse	s Colors all Moist)			Field Observa	ations Confirm I	Mapped Ty		s No
SOILS Map Unit Name (Series and Phase):Am - A Taxonomy (Subgroup): Profile Description:Matrix Coll Depth (inches)	or	, seeped	Mottle (Munse	3 Colors all Moist)			Field Observa	ations Confirm I	Mapped Ty		s No
SOILS Map Unit Name (Series and Phase):Am - A Taxonomy (Subgroup): Profile Description:Matrix Coll Depth (inches)	or	, seeped	Mottle (Munse	• Colors ell Moist)			Field Observa	ations Confirm I	Mapped Ty		s No
SOILS Map Unit Name (Series and Phase):Am - A Taxonomy (Subgroup): Profile Description:Matrix Coll Depth (inches)		seeped Reducing Concretions Organic Str	Condition	ons nroma C			Field Observa	Texture Silty sandy loontent in Surface all Hydric Soils List	e Layer in S	ns, Structure;	s No
SOILS Map Unit Name (Series and Phase):Am - A		Reducing C Gleyed or L	Condition	ons nroma C			Field Observa	Texture Silty sandy loontent in Surface all Hydric Soils List	e Layer in S	ns, Structure;	s No
SOILS Map Unit Name (Series and Phase):Am - A		Reducing C Gleyed or L	Condition	ons hroma C	dy Soils		Field Observa	Texton Silty sandy k Silty sandy k ontent in Surface all Hydric Solls Hydric Solls Lise or remarks)	e Layer in S	Sandy Soils	s No
SOILS Map Unit Name (Series and Phase):Am - A Taxonomy (Subgroup):	soil.	Reducing C Gleyed or L	Condition of the condit	ons hroma C g in Sand	dy Soils		Field Observa	Texton Silty sandy k Silty sandy k ontent in Surface all Hydric Solls Hydric Solls Lise or remarks)	e Layer in S	Sandy Soils	s No
SOILS Map Unit Name (Series and Phase):Am - A Taxonomy (Subgroup):	or soil.	deducing College of Loncretions Organic Str	Condition No.	ons hroma C g in Sand	dy Soils		Field Observa	Texton Silty sandy k Silty sandy k ontent in Surface all Hydric Solls Hydric Solls Lise or remarks)	e Layer in S	Sandy Soils	s No

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		,		
			·	
	•			: : :
				:
				•

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Billings BUPass City/County: Ye	Moustone Sampling Date: 7/14/11
Applicant/Owner: MDT	State: MT Sampling Point: M
Investigator(s): L. Stragis, J. Gage Section, Township,	Range: S 11 12, T1N, R26E
Landform (hillslope, terrace) etc.): Local relief (concar	ve, convex, none): Slope (%): 2-3
Subregion (LRR): Lat:	Long: Datum:
Soil Map Unit Name:	NWI classification: <u>PΣ</u> m
Are climatic / hydrologic conditions on the site typical for this time of year? Yes N	o (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? \(\int \) A	vre "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or rightnoisy significantly distanced:) 0 f /	If peeded, explain any answers in Remarks)
Are Vegetation, Soil, or Hydrology naturally problematic? $\mathcal{N}_{(l)}$ (I	
	n locations, transcotts, impercurses
Hydrophytic Vegetation Present? Yes V No Is the Samp	oled Area
Hydric Soil Present? Yes No within a We	etland? Yes No
Wetland Hydrology Present? Yes No No	ditab from 8 Teast to concrite
Remarks: Mary street agricultural	lend use from 8 Teast to concrete hearing 7 @ Hawthere
12 101 3 welland on volule	hands 3 wastered as the
VEGETATION - Use scientific names of plants. Crops North, Ros	ad south
` Absolute Dominant Indicat	
Tree Stratum (Plot size: % Cover Species? Statu	(Admitted of Bottimatic operator
1	That Are OBL, FACW, or FAC (excluding FAC-):
2	Total Number of Dominant
3	Species Across All Strata: (B)
= Total Cover	Percent of Dominant Species
Sapling/Shrub Stratum (Plot size:)	That Are OBL, FACW, or FAC:(A/B)
1	Prevalence index worksheet:
2	Total % Cover of: Multiply by:
3	OBL species x 1 =
4	FACW species x 2 =
5 = Total Cover	FAC species x 3 =
Harb Stratum (Plot size:	FACU species x4 =
1. Rod canangras P. arundinaca 100% VOB	
2	Column Totals: (A) (B)
3	Prevalence Index = B/A =
4	Hydrophytic Vegetation Indicators:
5	1 - Rapid Test for Hydrophytic Vegetation
6	2 - Dominance Test is >50%
7	3 - Prevalence Index is ≤3.0¹
8	4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
9	Problematic Hydrophytic Vegetation (Explain)
10 = Total Cover	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
Woody Vine Stratum (Plot size:)	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1	Hydrophytic
2 = Total Cover	Vegetation
% Bare Ground in Herb Stratum	Present? Yes No No
Demarks:	July Mary 13
(small fuited bullrush by beg (a) 312) 5	7's begining by 3!
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Depth Matrix	n needed to document the indicator of col	nfirm the absence of indicators.)
	Redox Features	
(inches) Color (moist) %	Color (moist) % Type ¹ Loc	
0-6: 10 YR 3/2		sittlem
5-16 10 YR 35 40	10484/6 10 C Y	n sandy loan
		<u> </u>
*	•	,
	Reduced Matrix, CS=Covered or Coated San	nd Grains. ² Location: PL=Pore Lining, M=Matrix.
lydric Soil Indicators: (Applicable to all L		Indicators for Problematic Hydric Soils ³ :
Histosol (A1)	Sandy Gleyed Matrix (S4)	1 cm Muck (A9) (LRR I, J)
Histic Epipedon (A2)	Sandy Redox (S5)	Coast Prairie Redox (A16) (LRR F, G, H)
Black Histic (A3)	Stripped Matrix (S6)	Dark Surface (S7) (LRR G)
Hydrogen Sulfide (A4)	Loamy Mucky Mineral (F1)	High Plains Depressions (F16)
Stratified Layers (A5) (LRR F)	Loamy Gleyed Matrix (F2)	(LRR H outside of MLRA 72 & 73)
1 cm Muck (A9) (LRR F, G, H)	Depleted Matrix (F3)	Reduced Vertic (F18) Red Parent Material (TF2)
Depleted Below Dark Surface (A11)	X Redox Dark Surface (F6)	Very Shallow Dark Surface (TF12)
Thick Dark Surface (A12) Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7) Redox Depressions (F8)	Other (Explain in Remarks)
		³ Indicators of hydrophytic vegetation and
2.5 cm Mucky Peat or Peat (S2) (LRR G	(MLRA 72 & 73 of LRR H)	wetland hydrology must be present,
5 cm Mucky Peat or Peat (S3) (LRR F)	(WERA 12 & 13 OF ERRY)	unless disturbed or problematic.
ः* Restrictive Layer (if present):		anios distances of presentation
Type:		
		Hydric Soil Present? Yes No No
Depth (inches):		Hydric don Fresent: Tes
Remarks:	. ***	a de estado de e
concentrations 4/	' 6	The state of the s
17		
YDROLOGY		
Vetland Hydrology Indicators:		
Primary Indicators (minimum of one required;	check all that apply)	Secondary Indicators (minimum of two required)
/Surface Water (A1)	Salt Crust (B11)	Surface Soil Cracks (B6)
7		Sparsely Vegetated Concave Surface (B8)
/ High Mater Table (42)	Aguatic invertencates (RT3)	
High Water Table (A2)	Aquatic Invertebrates (B13)	-,
_ Saturation (A3)	Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)
Saturation (A3) Water Marks (B1)	Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2)	Drainage Patterns (B10)Oxidized Rhizospheres on Living Roots (C3
Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Ro	Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled)
Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	 Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Row (where not tilled) 	Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8)
Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	 Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Rowald (where not tilled) Presence of Reduced Iron (C4) 	Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9)
Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	 Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Rown (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) 	Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7)	 Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Rown (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) 	Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5)
Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	 Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Rown (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) 	Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)	 Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Rown (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) 	Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5)
Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)	 Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Rown (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) 	Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5)
Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes N	Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Ro	Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5)
Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Field Observations: Surface Water Present? Vater Table Present? Water Table Present? Yes N	Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Ro	Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5) Frost-Heave Hummocks (D7) (LRR F)
Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Field Observations: Surface Water Present? Ves Naturation Present? Ves Naturation Present?	Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Ro	Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5)
Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Field Observations: Surface Water Present? Vater Table Present? Vater Table Present? Saturation Present? Ves Notice	Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Ro	Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5) Frost-Heave Hummocks (D7) (LRR F)
Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Field Observations: Surface Water Present? Vater Table Present? Vater Table Present? Saturation Present? Ves Northead Research Nor	Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roce	Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5) Frost-Heave Hummocks (D7) (LRR F) Wetland Hydrology Present? Yes No
Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) ield Observations: surface Water Present? Yes N vater Table Present? Yes N includes capillary fringe) lescribe Recorded Data (stream gauge, more	Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roce	Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5) Frost-Heave Hummocks (D7) (LRR F) Wetland Hydrology Present? Yes No
Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) ield Observations: urface Water Present? Vater Table Present?	Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Ro (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): Depth (inches): Depth (inches):	Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5) Frost-Heave Hummocks (D7) (LRR F)

WETLAND DETERMINATION DATA	/ /
Project/Site: Billing & Bypass City/Coun	ty: Yellowstore Sampling Date: 7/14/1
Applicant/Owner: MOT	State: MT Sampling Point: M 2
Investigator(s): Listragis, J. Gage Section, T	ownship, Range: SII+I2, TIN, ROGE
Landform (hillslope terrace, etc.): Local reli	ef (concave, convex, fione): Slope (%):
Subregion (LRR):	Long: Datum:
Call Man Unit Name:	NWI classification: upland
Soil Map Unit Name: Are climatic / hydrologic conditions on the site typical for this time of year? Yes _	No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed	? A/a Are "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology naturally problematic?	(If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sampli	ng point locations, transects, important leatures, etc.
Hydric Soil Present? Yes No wi	the Sampled Area thin a Wetland? Yes No
Wetland Hydrology Present? Yes No V	
Remarks: Canal N. of Mary Street Upland Plot	
VEGETATION – Use scientific names of plants.	
* *************************************	nt Indicator Dominance Test worksheet:
1	
2. 3. 4.	Total Number of Dominant Species Across All Strata: (B)
4 = Total C Sapling/Shrub Stratum (Plot size:)	Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
1.\$	Prevalence Index worksheet:
2.	Total % Cover of: Multiply by:
3	OBL species x 1 =
5.	FACW species x 2 =
= Total C	Cover FACU species X3 =
Herb Stratum (Plot size: 18 incompanies 95	
1. smooth brone Birminis 35 V 2. field bindured Carvensis 55	Column Totals: (A) (B)
3. Thiste Circum arverse 25	
4.	Prevalence Index = B/A =
5.	Hydrophytic vegetation indicators.
6.	1 - (tapia root in riyarapin) na ragamini
7.	
8	4 - Morphological Adaptations ¹ (Provide supporting
9	data in Remarks or on a separate sheet)
10	Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size:) 1	¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2.	Hydrophytic
= Total (Cover Vegetation Present? Yes No
% Bare Ground in Herb Stratum	
Remarks:	,

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Profile Description: (Desc	ribe to the depti	needed to docume	ent the indicator	or confirm	the absence of in	dicators.)
Depth Mal Color (mois D-4 10 YR 3	50.00	Redox Color (moist)	Features % Type¹	Loc ²	Texture loam	Remarks
¹ Type: C=Concentration, D= Hydric Soil Indicators: (A)		RRs, unless otherw		d Sand Gr	Indicators for P	∴ PL≔Pore Lining, M=Matrix. roblematic Hydric Soils³: A9) (LRR I, J)
Histic Epipedon (A2)		Sandy Re	dox (S5)		Coast Prairie	e Redox (A16) (LRR F, G, H)
Black Histic (A3) Hydrogen Sulfide (A4)			Matrix (S6) ucky Mineral (F1)			e (S7) (LRR G) Depressions (F16)
Stratified Layers (A5) (L		Loamy Gl	eyed Matrix (F2)			outside of MLRA 72 & 73)
1 cm Muck (A9) (LRR F Depleted Below Dark So			Matrix (F3)		Reduced Ve	rtic (F18) Material (TF2)
Depleted Below Dark St Thick Dark Surface (A12	, ,		Dark Surface (F6)			v Dark Surface (TF12)
Sandy Mucky Mineral (S	51)	Redox De	pressions (F8)		Other (Expla	in in Remarks)
2.5 cm Mucky Peat or P 5 cm Mucky Peat or Pea			is Depressions (F ² A 72 & 73 of LRR		•	drophytic vegetation and ology must be present,
5 cm wideky real of rea	at (OO) (LAN F)	(IMIT.LY)	4 12 & 13 01 ERR	ri) •		bed or problematic.
Restrictive Layer (if preser	•					***************************************
Type: hand po	m					
Depth (inches):					Hydric Soil Prese	ent? Yes No/_
Remarks: medge	of wet	land ~ 1	10'N			
HYDROLOGY						
Wetland Hydrology Indicat						
Primary Indicators (minimum	of one required;					licators (minimum of two required)
Surface Water (A1) High Water Table (A2)			rtebrates (B13)	MANAGEMENT PROPERTY		oil Cracks (B6) Vegetated Concave Surface (B8)
Saturation (A3)			ılfide Odor (C1)			Patterns (B10)
Water Marks (B1)		Dry-Season	Water Table (C2)		Oxidized f	Rhizospheres on Living Roots (C3)
Sediment Deposits (B2)			zospheres on Livi	ng Roots (· ·	•
Drift Deposits (B3) Algal Mat or Crust (B4)		(where no	t tilled) Reduced Iron (C4			Jurrows (C8) Visible on Aerial Imagery (C9)
Iron Deposits (B5)		Thin Muck S	•	,		nic Position (D2)
Inundation Visible on Ae	rial Imagery (B7)		in in Remarks)	٠		ral Test (D5)
Water-Stained Leaves (F			•			ve Hummocks (D7) (LRR F)
Field Observations:						
Surface Water Present?		Depth (inch		-		,
Water Table Present?		Depth (noch			and the dealers on B	sent? Yes No
Saturation Present? (includes capillary fringe)		Depth (inch	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		and Hydrology Pres	sent/ Yes No V
Describe Recorded Data (str	eam gauge, moni	toring well, aerial ph	otos previous insp	ections), i	f available:	
Domarka						
Remarks:						
			/			



Data Form 1 (revised) Routine wetland determination (1987 Corps Wetland Delineation Man

mal) UISUC 8/25 <u>wettom</u> pate: 9/18/07	d coi	rfin pt.	nat exp	O
nty: Yellowsto	one			
ID: PEM ID: C1 (Outsi ID: O7 and O		ment)		
Stratum	% Cover	Indic	ator	
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
		<u></u>		
tations plant communiti	ės			
***************************************		,		
diment Deposits				
	Yes 🗌	No	Ø	
ainage Patterns:	W., [7]	31.	_	

								<u>vetias</u>	ad lex	1304-16	681
Project/Site: Billin	ngs By-Pass						Date:	9/18/07		Û	1
Applicant/Owner: MDT	,						County:	Yellows	stone		
							State:	MT			
Investigator(s): SAS'	W, ORG						S/T/R:				
Do Normal Circumstances	exist on the site?		Yes 🖂	No [Comm	mity ID:	PEM			
Is the site significantly dist	urbed (atypical situ	iation)?	Yes	_	\boxtimes		sect ID:	•	side of ali	gnment)	
Is the area a potential Probl			Yes	No	\boxtimes		Plot ID:	O7 and	O8A		
Explanation of atypical or parea:	oroblem N/A	A.									
VEGETATION (for stra	ta, indicate T = tre	e; S = shrub	; H = herb; V	= vine)							
Dominant Plant Specie		% Cover	Indicator		ninant P	lant Species	5	Stratum	% Cove	r Indic	cato
Reed canarygrass (Phalaris arundinacea)		*100	FACW								
										ļ	
									ļ		
									<u> </u>		
Visual observation of plant areas of prolonged inundati Morphological adaptations Technical Literature Hydrophytic vegetation p Rationale for decision/rema	on/saturation:		No 🗌	Wetland	plant d knowle	edge of regi			ities		
HYDROLOGY				•							
Is it the growing season?	Yes 🛭 N	[о 🔲	Water Marks:	Yes		No 🛛	Sedime	nt Deposit	ts:	,	
			on						Yes [] No	
Based on soil ter	np (record temp		Drift Lines:	Yes		No 🗵	Drainag	e Patterns	::		
Time of year other (explai	n)								Yes [Ŋ No	
Depth of inundation:	none Inches		Oxidized Ro	oot (live r	oots) C	hannels	Local S	oil Survey	/ ;		
•			<12 in.	Yes	X	No 🔲			Yes [] No	
Depth to free water in pit:	none Inche	s	FAC Neutral:	Yes		No 🗵	Water-s	tained Le	aves:		
Depth to saturated soil:	surface Inche	s							Yes [No	X
Check all that apply and ex	plain below:		Other (expla	nin):							
Stream, lake, or gauge data			· · · -								
Aerial photographs:	Oth	er: 🔲						·			
Wetland hydrology presen		No 🗆									

SOILS Map Unit		An - Alluvial land,	wet	Drainage Class	Poorly drained				
(Series & Taxonomy	y			Field observation	ns confirm mapped type?	Yes	\boxtimes	No	
(subgroup)								
Profile Do	escription								
Depth (inches)	Horizon	Matrix color (Munsell moist)	Mottle colors (Munsell moist)	Mottle abundance and contrast	Texture, concretions, structure, etc.			soil pro criptio	
0 - 2]	10YR 3/2			Silt loam				
2 - 16		Chart I 4/N	5YR 4/6	Bright/abundant	Clay/silt				
									1
				§					
				Tanana and tanana and					
Hydric So	Histosol Histic Epipe Sulfidic Odo Aquic Moist Reducing Co	r ure Regime		☐ Mg or Fe C☐ High Organ☐ Organic Str	oma ≤ 2 with mottles concretions dic Content in Surface Layer reaking in Sandy Soils fational/Local Hydric Soils ain in remarks)		∕ Soils		
Hydric soi	ils present? for decision/re	Yes 🛚	No 🗆		·				
WETLA	ND DETER	MINATION							
Hydrophyt present?	ic vegetation	Yes 🛛	No 🗌						
Hydric soil	s present? /drology prese	Yes ⊠ nt? Yes ⊠	No	Is the sampling no	int within a wetland?	Yes D	₫	No	П
Rationale/		DP located along dr	ainage canal near/adj	jacent to the Yellowsto	one River below sandstone l , sedges, Russian olive, and	bluffs. Ac			

WETLAND DETERMINATION DATA FORM - Great Plains Region Project/Site: Billings Bypass City/County: <u>Sellowstone</u> Sampling Date: 7/14/11 State: MT Sampling Point: P. Applicant/Owner: MOT J. Gage Section, Township, Range: 5 18+19, TIN, R27B Investigator(s): List radic Local relief (concave_convex, none): ______ Slope (%): 2-5 Landform (hillslope, terrace, etc.) _ Lat: _____ Long: ____ Subregion (LRR): NWI classification: Soil Map Unit Name: __ Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.) Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? 1/0 Are "Normal Circumstances" present? Yes _ Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? $\mathcal{N}_{\mathcal{O}}$ (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. ✓ _ No ____ Hydrophytic Vegetation Present? Is the Sampled Area Yes __/_ No _____ Hydric Soil Present? within a Wetland? Wetland Hydrology Present? Irr ditch perpendicular to Coulson Rd. Souce of water not this connaise - under ground from south Remarks: VEGETATION – Use scientific names of plants. **Dominance Test worksheet:** Absolute Dominant Indicator % Cover Species? Status Tree Stratum (Plot size: ___ Number of Dominant Species 1. Russian olive & angustifolice 20 V FAC That Are OBL, FACW, or FAC ____ (A) (excluding FAC+): Total Number of Dominant Species Across All Strata: □ = Total Cover Percent of Dominant Species That Are OBL, FACW, or FAC: Sapling/Shrub Stratum (Plot size: 1. ____ current Riber Sp ? Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species x1= _____x ____ x 3 = ___. FAC species FACU species Herb Stratum (Plot size: UPL species 3. R. Escue Escrabrella 30 Prevalence Index = B/A = ___ Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0⁵ ___ 4 - Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) //7 = Total Cover ¹Indicators of hydric soil and wetland hydrology must Woody Vine Stratum (Plot size: _____) be present, unless disturbed or problematic. Hydrophytic Vegetation = Total Cover Present? % Bare Ground in Herb Stratum _____ lots of wildlife - carp in ditch - along ditch

Mar ww. - bohomian, Yellow was AMP H.

US Army Corps of Engineers

	mpaon: (Describe	to the dept	in necaca to acc	ument the II	ndicator	or confirr	n the absence	of indicators.)	
Depth	Matrix	•	•	dox Features					
(inches)	Color (moist)	%	Color (moist)	%	_Type ¹	Loc ²	Texture	Remarks	
0-6	10 VR 4/2	95	5 YR 4/h	5.	PL	m	SHIN cla	Redax	
6-00	10 YR 4/2	705%	5 YR 0/6	27	\overline{C}	$\overline{\mathcal{M}}$	COM	Redov	
// 1 //	10 11 1/2	. <u>12 27 :</u>	1. h. h.)	_ 	7	m		. 1 / 0	00 /
1			Charles			ъ		sheaks franca	<u> '/ /ˈ</u>
10 10			5/ey+3/2			12	-	***************************************	
10-16	scime ac	alrono.	no in	<u> ئالى ئ</u>	<u> 78</u>	4/6_	40%		
					a,				

	oncentration, D=Dep	letion PM=	Peduced Matrix (~~ ~~~~ .	or Coato	d Cond C	raina ² i an	otion: Di pone l'inime Man	Andria.
	ndicators: (Application)					d Sand Gi		ation: PL≔Pore Lining, M=N for Problematic Hydric So	
	(A1)			Gleyed Mat				uck (A9) (LRR I, J)	.,,,
	ipedon (A2)			Redox (S5)				rairie Redox (A16) (LRR F,	G. H)
Black His				ed Matrix (Se				urface (S7) (LRR G)	O ,,
	n Sulfide (A4)			Mucky Mine			High Pl	ains Depressions (F16)	
	Layers (A5) (LRR F			Gleyed Mat				R H outside of MLRA 72 &	73)
	ck (A9) (LRR F, G, F		,	ed Matrix (F	•			d Vertic (F18)	
	Below Dark Surface rk Surface (A12)	(ATT)		Dark Surfac				rent Material (TF2)	
	ucky Mineral (S1)			ed Dark Surf Depressions				allow Dark Surface (TF12) Explain in Remarks)	
		32) (LPP G		lains Depres		4.00		of hydrophytic vegetation and	Ч
2.5 cm M	lucky Peal of Peal (S)& (LIXIX V)	• #/ RUII #		ssions (F	16)	indicators of	II IIVU:UDDVIIC VEUELAROD AID	
	lucky Peat or Peat (S cky Peat or Peat (S3			LRA 72 & 73				hydrology must be present,	
5 cm Mu	cky Peat or Peat (S3						wetland	• • •	
5 cm Mu	·						wetland	hydrology must be present,	
5 cm Mu	cky Peat or Peat (S3 ayer (if present):						wetland	hydrology must be present,	
5 cm Mud Restrictive L Type: Depth (inc	cky Peat or Peat (S3 ayer (if present): hes):	(LRR F)	(M	LRA 72 & 73	3 of LRR		wetland	hydrology must be present, disturbed or problematic.	
5 cm Mud Restrictive L Type: Depth (inc	ayer (if present):	(LRR F)	(M	LRA 72 & 73	3 of LRR		wetland unless o	hydrology must be present, disturbed or problematic.	
5 cm Much Restrictive L Type: Depth (inc Remarks:	ayer (if present): hes):	(LRR F)	(M	LRA 72 & 73	3 of LRR		wetland unless o	hydrology must be present, disturbed or problematic.	
Restrictive L Type: Depth (inc Remarks: (//)(/// YDROLOG	ayer (if present): hes): GY rology Indicators:	(LRR F)	-unknoz	LRA 72 & 73	3 of LRR		wetland unless o	hydrology must be present, disturbed or problematic.	
Restrictive L Type: Depth (inc Remarks: (/)/(// YDROLOG Vetland Hyd	ayer (if present): hes): SY rology Indicators: ators (minimum of or	(LRR F)	-unknoz	LRA 72 & 73	3 of LRR		wetland unless o	hydrology must be present, disturbed or problematic.	No
Restrictive L Type: Depth (inc Remarks: (//)/ (//) YDROLOG Vetland Hyd	ayer (if present): hes): GY rology Indicators:	(LRR F)	-unknoz	LRA 72 & 73	g of LRR	H)	wetland unless of Hydric Soil F	hydrology must be present, disturbed or problematic. Present? Yes	No
Restrictive L Type: Depth (inc Remarks: YDROLOC Vetland Hyd Primary Indica Surface V High Wat	ayer (if present): hes): GY rology Indicators: ators (minimum of or Vater (A1) I A - er Table (A2)	(LRR F)	check all that app Salt Crusi Aquatic Ir	LRA 72 & 73 M Since (N) L(B11) L(B14)	3 of LRR	H)	wetland unless of the secondar surface wetland unless of	hydrology must be present, disturbed or problematic. Present? Yes	No
Type: Depth (inc.) YDROLOC Vetland Hyd Migh Wate Surface V High Wate Saturation	ayer (if present): hes): GY rology Indicators: ators (minimum of or Vater (A1) (A2) n (A3) NA	(LRR F)	check all that app Salt Crusi Aquatic Ir	LRA 72 & 73 M Orice (N) L(B11) Invertebrates Sulfide Odo	3 of LRR 2) IVS (B13) or (C1)	H)	wetland unless of Hydric Soil F Secondar — Surfa — Spars — Drain	y Indicators (minimum of two ce Soil Cracks (B6) sely Vegetated Concave Surage Patterns (B10)	o require
Type: Depth (inc Remarks: Type YDROLOG Vetland Hyd Surface V High Wate Saturation Water Ma	ayer (if present): hes): rology Indicators: ators (minimum of or Vater (A1) I A - er Table (A2) n (A3) NA urks (B1)	(LRR F)	check all that app Salt Crust Aquatic Ir Hydrogen Dry-Seas	LRA 72 & 73 M Dric (N) L(B11) Ivertebrates: Sulfide Odo on Water Tal	(B13) or (C1) ble (C2)	H)	Secondar Spars Drain V Oxidis	hydrology must be present, disturbed or problematic. Present? Yes	o require
Type: Depth (inc Remarks: TYDROLOC Vetland Hyd Primary Indica Surface V High Wate Saturation Water Ma Sediment	ayer (if present): hes): rology Indicators: ators (minimum of or Vater (A1) NA rer Table (A2) n (A3) NA arks (B1) Deposits (B2)	(LRR F)	check all that app Salt Crusi Aquatic Ir Hydrogen Dry-Seas: Y Oxidized	LRA 72 & 73 W Of C IV) L(B11) Ivertebrates Sulfide Odo on Water Tal Rhizosphere	(B13) or (C1) ble (C2)	H)	wetland unless of Hydric Soil F Secondar Surfa Spars Drain Y Oxidiz C3) (wh	y Indicators (minimum of two ce Soil Cracks (B6) sely Vegetated Concave Sur age Patterns (B10) zed Rhizospheres on Living are tilled)	o require
Type: Depth (inc Remarks: TYDROLOC Vetland Hyd Vimary Indica Surface V High Wate Saturation Water Ma Sediment Drift Depo	ayer (if present): hes): cold of Cold ayer (if present): hes): cold of Cold ayer (if present): hes): cold of Cold ayer (if present): aye	(LRR F)	Check all that app Salt Crusi Aquatic Ir Hydrogen Dry-Seasi X Oxidized (where	LRA 72 & 73 W O Fice IV) L(B11) Ivertebrates Sulfide Odo on Water Tal Rhizosphere not tilled)	(B13) or (C1) ble (C2)	H)	Secondar Secondar Surfa Spars Drain V Oxidia C3) (wh	y Indicators (minimum of two ce Soil Cracks (B6) sely Vegetated Concave Sur age Patterns (B10) zed Rhizospheres on Living ere tilled) ish Burrows (C8)	o require
Type:	ayer (if present): hes): rology Indicators: ators (minimum of or Vater (A1) NA - er Table (A2) n (A3) NA irks (B1) Deposits (B2) osits (B3) or Crust (B4)	(LRR F)	check all that app Salt Crust Aquatic Ir Hydrogen Dry-Seas Woxidized (where	LRA 72 & 73 W Strong Ily) L(B11) Ivertebrates Sulfide Odo on Water Tal Rhizosphere not tilled) of Reduced	(B13) or (C1) ble (C2) es on Livir	H)	Secondar Secondar Surfa Spars Drain V Oxidi: C3) (wh	y Indicators (minimum of two ce Soil Cracks (B6) cely Vegetated Concave Surage Patterns (B10) ced Rhizospheres on Living lere tilled) ish Burrows (C8) ation Visible on Aerial Image	o require
Type:	ayer (if present): hes): rology Indicators: ators (minimum of or Vater (A1) NA rer Table (A2) n (A3) NA arks (B1) Deposits (B2) posits (B3) or Crust (B4) posits (B5)	ne required;	check all that app Salt Crust Aquatic Ir Hydrogen Dry-Seas X Oxidized (where Presence Thin Mucl	LRA 72 & 73 LRA 72 & 73 LRA 72 & 73 LRA 72 & 73 LRA 72 & 73	(B13) or (C1) ble (C2) es on Livir Iron (C4)	H)	Secondar Surfa Spars Drain V Oxidiz C3) (wh Cayfa Satur X Geom	y Indicators (minimum of two ce-Soil Cracks (B6) age Patterns (B10) are tilled) ish Burrows (C8) atton Visible on Aerial Image porphic Position (D2)	o require
Sestrictive L Type: Depth (inc Remarks: TYDROLOC Vetland Hyd Vimary Indica Surface V High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundation	ayer (if present): hes): Trology Indicators: ators (minimum of or Vater (A1) I A - er Table (A2) in (A3)	ne required;	check all that app Salt Crusi Aquatic Ir Hydrogen Dry-Seas V Oxidized (where Presence Thin Mucl	LRA 72 & 73 LRA 72 & 73 LRA 72 & 73 LRA 72 & 73 LRA 72 & 73	(B13) or (C1) ble (C2) es on Livir Iron (C4)	H)	Secondar Surfa Spars Drain V Oxidi C3) Crayf Satur V Geom FAC-	y Indicators (minimum of two ce Soil Cracks (B6) sely Vegetated Concave Surage Patterns (B10) zed Rhizospheres on Living ere tilled) ish Burrows (C8) ation Visible on Aerial Image porphic Position (D2) Neutral Test (D5)	o require rface (B8 Roots (C
Type: Depth (inc Remarks: TYDROLOC Vetland Hyd Primary Indica Surface V High Water Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundation Water-Sta	ayer (if present): hes): rology Indicators: ators (minimum of or Vater (A1) MA er Table (A2) n (A3) NA urks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) n Visible on Aerial Invained Leaves (B9)	ne required;	check all that app Salt Crust Aquatic Ir Hydrogen Dry-Seas X Oxidized (where Presence Thin Mucl	LRA 72 & 73 LRA 72 & 73 LRA 72 & 73 LRA 72 & 73 LRA 72 & 73	(B13) or (C1) ble (C2) es on Livir Iron (C4)	H)	Secondar Surfa Spars Drain V Oxidi C3) Crayf Satur V Geom FAC-	y Indicators (minimum of two ce-Soil Cracks (B6) age Patterns (B10) are tilled) ish Burrows (C8) atton Visible on Aerial Image porphic Position (D2)	o require rface (B8) Roots (C
Type: Depth (inc Remarks: TYDROLOC Vetland Hyd Primary Indica Surface V High Water Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundation Water-Sta ield Observa	ayer (if present): hes): rology Indicators: ators (minimum of or Vater (A1) // A - er Table (A2) n (A3)	ne required;	check all that app Salt Crus: Aquatic Ir Hydrogen Dry-Seas Y Oxidized (where Presence Thin Mucl	LRA 72 & 73 LRA 72 & 73 L(B11) Invertebrates Sulfide Odo on Water Tal Rhizosphere not tilled) of Reduced c Surface (Ci plain in Rem	(B13) or (C1) ble (C2) es on Livir Iron (C4) 7) narks)	H)	Secondar Surfa Spars Drain V Oxidi C3) Crayf Satur V Geom FAC-	y Indicators (minimum of two ce Soil Cracks (B6) sely Vegetated Concave Surage Patterns (B10) zed Rhizospheres on Living ere tilled) ish Burrows (C8) ation Visible on Aerial Image porphic Position (D2) Neutral Test (D5)	o required rface (B8) Roots (C
Type:	ayer (if present): hes): rology Indicators: ators (minimum of or Vater (A1) NA - er Table (A2) n (A3) NA irks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) n Visible on Aerial Imained Leaves (B9) ations: r Present? Ye	nagery (B7)	check all that app Salt Crust Aquatic Ir Hydrogen Dry-Seas Woxidized (where Presence Thin Mucl Other (Ex	LRA 72 & 73 W O Fice W O	(B13) or (C1) ble (C2) es on Livir Iron (C4) 7) parks)	H)	Secondar Surfa Spars Drain V Oxidi C3) Crayf Satur V Geom FAC-	y Indicators (minimum of two ce Soil Cracks (B6) sely Vegetated Concave Surage Patterns (B10) zed Rhizospheres on Living ere tilled) ish Burrows (C8) ation Visible on Aerial Image porphic Position (D2) Neutral Test (D5)	o require rface (B8) Roots (C
Type: Depth (inc Remarks: Type (Inc) Primary Indica Surface V High Water Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundation Water-Sta Sield Observa	ayer (if present): hes): rology Indicators: ators (minimum of or Vater (A1) I/A - er Table (A2) n (A3)	nagery (B7)	check all that app Salt Crusi Aquatic Ir Hydrogen Dry-Seas Where Presence Thin Mucl Other (Ex	LRA 72 & 73 W Since (N) L(B11) Invertebrates Sulfide Odo on Water Tal Rhizosphere not tilled) of Reduced c Surface (Ci plain in Rem inches):	(B13) or (C1) ble (C2) es on Livir Iron (C4) 7) parks)	H) . ng Roots (Secondar Surfa Spars Drain C3) (wh Crayfi Satur FAC-I Frost-	y Indicators (minimum of two ce-Soil Cracks (B6) age Patterns (B10) are tilled) ish Burrows (C8) ation Visible on Aerial Image porphic Position (D2) Neutral Test (D5) Heave Hummocks (D7) (L1)	o required face (B8) Roots (C
Type: Depth (inc Remarks: Type Algal Mat Iron Depo Inundation Water-Sta Surface Water Water Table Proportion Pre- Remarks: Type: Depth (inc Remarks: Type: Depth (inc Vater Mater) Algal Mater Iron Depote Inundation Water-Sta Surface Water Water Table Presented Pre- Reservation Pre-	ayer (if present): hes): rology Indicators: ators (minimum of or Vater (A1) I A - er Table (A2) n (A3) NA arks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) n Visible on Aerial Imained Leaves (B9) ations: r Present? Ye esent? Ye	nagery (B7)	check all that app Salt Crust Aquatic Ir Hydrogen Dry-Seas Woxidized (where Presence Thin Mucl Other (Ex	LRA 72 & 73 W Since (N) L(B11) Invertebrates Sulfide Odo on Water Tal Rhizosphere not tilled) of Reduced c Surface (Ci plain in Rem inches):	(B13) or (C1) ble (C2) es on Livir Iron (C4) 7) parks)	H) . ng Roots (Secondar Surfa Spars Drain C3) (wh Crayfi Satur FAC-I Frost-	y Indicators (minimum of two ce Soil Cracks (B6) age Patterns (B10) are tilled) ish Burrows (C8) ation Visible on Aerial Image porphic Position (D2) Neutral Test (D5) Heave Hummocks (D7) (L1)	o require rface (B8) Roots (C
Type:	ayer (if present): hes): rology Indicators: ators (minimum of or Vater (A1) I A - er Table (A2) n (A3) NA arks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) n Visible on Aerial Imained Leaves (B9) ations: r Present? Ye esent? Ye	nagery (B7) s No	check all that app Salt Crusi Aquatic Ir Hydrogen Dry-Seas Voxidized (where Presence Thin Mucl Other (Ex	LRA 72 & 73 LRA 73 & 73 LRA 72 & 73 LRA 72 & 73 LRA 72 & 73 LRA 72 & 73 LRA 73 & 73 LRA 72 & 73 LRA 73 & 73 LRA 7	(B13) or (C1) ble (C2) es on Livir (Iron (C4) 7) narks)	H) ng Roots (Secondar Surfa Spars Drain V Oxidiz C3) (wh Crayfi Satur FAC-I Frost-	y Indicators (minimum of two ce-Soil Cracks (B6) age Patterns (B10) are tilled) ish Burrows (C8) ation Visible on Aerial Image porphic Position (D2) Neutral Test (D5) Heave Hummocks (D7) (L1)	o require rface (B8 Roots (Cery (C9)

flowing north

WETLAND DETERMINATION DATA FORM – Great Plains Region

AAT I TUILD DE I TIMO	.1.31	21	26/1
Project/Site: Billings Bapass	_ City/County: <u> </u>	Sampling Date: 67	=/p
ha kanta		State, 111 Camping Come	\' .
) Sylmanic	_ Section, Township, Rang	ge: <u>S 18(17)</u> , TIN, R 27E	.0-2
Investigator(s):	Local relief (concave, co	onvex, none):Stope (%)	5100
Landform (httlslope terrace, etc.): Subregion (LRR):		Long: Datum.	<u> </u>
Coil Man Unit Name		AAAA CIASSIIICAROIS.	
Are climatic / hydrologic conditions on the site typical for this time of	year? Yes No	(If no, explain in Remarks.)	
Are Vegetation, Soil, or Hydrology significan	tly disturbed? Are "N	formal Circumstances present? Tes	10
Are Vegetation, Soil, or Hydrology naturally	problematic? (If nee	ded, explain any answers in Remarks.)	
SUMMARY OF FINDINGS – Attach site map showi	ng sampling point lo	cations, transects, important feature	etc.
Tiyatophytio Vogotation	is the Sampled	Area d? Yes <u>I</u> No	
No. 184-41-10 A Shirdralamy Procent?			
Remarks: RR wetland south,	mot of "P" w	etland	
KIR WETIANA SOUTHING	38000	usedaerial	
not full assement -use a	2 linthon &	Conju endopints GPSd	
	/	701113	
VEGETATION – Use scientific names of plants. Absolu	ute Dominant Indicator	Dominance Test worksheet:	
Tree Stratum (Plot size:) % Cov	ver Species? Status	Number of Dominant Species	
1		That Are OBL, FACW, or FAC (excluding FAC-):	_ (A)
2.	i i		
3		Total Number of Dominant Species Across All Strata:	(B)
4		- CD with and Chaption	
Sapling/Shrub Stratum (Plot size:)	= Total Cover .	Percent of Dominant Species That Are OBL FACW, or FAC: 107)	_ (A/B)
1		Prevalence Index worksheet:	
2.		Total % Cover of: Multiply by:	
3.		OBL species x 1 =	
4.		FACW species x 2 =	
5	T (-1.0	FAC species x 3 =	
Herb Stratum (Plot size:)	= Total Cover	FAGU species x 4 =	
1- Tupha latitala 10	01. 1/ OBL	UPL species x 5 =	
2.		Column Totals: (A)	—— (B)
3.		Prevalence Index = B/A =	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
4.		Hydrophytic Vegetation Indicators:	
5		1 - Rapid Test for Hydrophytic Vegetation	i
6.		2 - Dominance Test is >50%	
7.	<u> </u>	3 - Prevalence Index is ≤3.01	
8.		4 - Morphological Adaptations¹ (Provide s data in Remarks or on a separate she	upporting et)
9.	······	Problematic Hydrophytic Vegetation (Ex	
10.	= Total Cover	1 -	
Woody Vine Stratum (Plot size:)		¹ Indicators of hydric soil and wetland hydrolog be present, unless disturbed or problematic.	y must
1			
2.	· · · · · · · · · · · · · · · · · · ·	Hydrophytic Vegetation	
	= Total Cover	Present? Yes No	
% Bare Ground in Herb Stratum			
Remarks:			
	•		
		Great Plains – V	orolon 3 O
US Army Corps of Engineers		Great Plains – V	SISIUII Z.U

WETLAND DETERMINATION DATA FORM - Great Plains Region

	1
Project/Site: Billings Bupass / Tohnson 1 city/county: <u>Yell</u>	Sampling Date: //13
Applicant/Owner: MDT	State: MT Sampling Point: R 7
Investigator(s): L. Stragis, G. Rama Section, Township, Ra	nge: STI, TIN, ROTE
Landform (hillslope, terrace, etc.): Local relief (concave,	convex, none): Slope (%): C
Subregion (LRR): G Lat:	Long: Datum:
Soil Map Unit Name:	NWI classification: PEM Riparium
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No	(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? No Are	"Normal Circumstances" present? Yes No
Are Vegetation; Soil, or Hydrology naturally problematic? No (If ne	eeded, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sampling point l	
Hydrophytic Vegetation Present? Yes 1 No Is the Sampled	l Area
Hydric Soil Present? Yes 1 No within a Wetlan Wetland Hydrology Present? Yes No within a Wetlan	nd? Yes No
	•
Remarks: joins wetland P, flows west	
3-63	una stadiona Cara.
315/3 , water~ 2 ft wide in center,	regelement printings
VEGETATION – Use scientific names of plants.	Dominance Test worksheet:
Tree Stratum (Plot size:) Absolute Dominant Indicator Species? Status	Number of Dominant Species
1.	That Are OBL, FACW, or FAC
2.	(excluding FAC-):
3	Total Number of Dominant Species Across All Strata: (B)
4	Species Across All Strata: (B)
Sapling/Shrub Stratum (Plot size:)	Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
1.	,
2.	Prevalence Index worksheet: Total % Cover of: Multiply by:
3.	OBL species x1 =
4	FACW species x 2 =
5	FAC species x 3 =
Herb Stratum (Plot size:)	FACU species x 4 =
1.Cotton Vilatifoliu 80 V OBL	UPL species x 5 =
2. Fardsim bulkash? Sacutus 10 00	Column Totals: (A) (B)
3. smilltruited balsh S. murroran pus 20 / 013	Prevalence Index = B/A =
4	Hydrophytic Vegetation Indicators:
5	Rapid Test for Hydrophytic Vegetation
6.	2 - Dominance Test is >50%
7	3 - Prevalence Index is ≤3.0¹
9	4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
10	Problematic Hydrophytic Vegetation¹ (Explain)
<u>/tttt/ 1 = Total Cover</u>	¹Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size:)	be present, unless disturbed or problematic.
1	
2 = Total Cover	Hydrophytic Vegetation
% Bare Ground in Herb Stratum	Present? Yes 1 No No
Remarks:	
noantalia Cias	
US Army Corps of Engineers	Great Plains Version 2.0
On With Court of Full March 2	

SOIL		Sampling Point:
Profile Description: (Describe to the depth	needed to document the indicator or confi	rm the absence of indicators.)
Depth Matrix	Redox Features	<u>_</u>
(inches) Color (moist) %	Color (maist) % Type ¹ Loc ²	Texture Remarks
0-6 10 YP 3/1		clau locum
6-60 10 YR 31 80,		day lown
		
	100	
	S/EY 1/5/1 2/ M_	<u>verticle stralcing</u>
10 + Gles 1/5N 100_	<i>*</i> /	
d-/		
<u> </u>		
¹ Туре: C=Concentration, D=Depletion, RM=R		······································
Hydric Soil Indicators: (Applicable to all LF	Rs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
Histosol (A1)	Sandy Gleyed Matrix (S4)	1 cm Muck (A9) (LRR I, J)
Histic Epipedon (A2)	Sandy Redox (S5)	Coast Prairie Redox (A16) (LRR F, G, H)
Black Histic (A3)	Stripped Matrix (S6)	Dark Surface (S7) (LRR G)
Hydrogen Sulfide (A4)	Loamy Mucky Mineral (F1)	High Plains Depressions (F16)
Stratified Layers (A5) (LRR F) 1 cm Muck (A9) (LRR F, G, H)	Loamy Gleyed Matrix (F2) Depleted Matrix (F3)	(LRR H outside of MLRA 72 & 73)
Depleted Below Dark Surface (A11)	Redox Dark Surface (F6)	Reduced Vertic (F18) Red Parent Material (TF2)
Thick Dark Surface (A12)	Depleted Dark Surface (F7)	Very Shallow Dark Surface (TF12)
Sandy Mucky Mineral (S1)	Redox Depressions (F8)	Other (Explain in Remarks)
2.5 cm Mucky Peat or Peat (S2) (LRR G, I		³ Indicators of hydrophytic vegetation and
5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)	wetland hydrology must be present,
		unless disturbed or problematic.
Restrictive Layer (if present):		
Туре:		
Depth (inches):	<u>_</u>	Hydric Soil Present? Yes No
Remarks:		
		•
IYDROLOGY		
Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; c	heck all that apply)	Secondary Indicators (minimum of two required)
Surface Water (A1)	Salt Crust (B11)	Surface Soil Cracks (B6)
/_High Water Table (A2)	Aquatic Invertebrates (B13)	Sparsely Vegetated Concave Surface (B8)
<u>V</u> Saturation (A3)	Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)
Water Marks (B1)	Dry-Season Water Table (C2)	Oxidized Rhizospheres on Living Roots (C3)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots	
Drift Deposits (B3)	(where not tilled)	Crayfish Burrows (C8)
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)	Saturation Visible on Aerial Imagery (C9)
Iron Deposits (B5)	Thin Muck Surface (C7)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	•	Frost-Heave Hummocks (D7) (LRR F)
Field Observations:		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Surface Water Present? Yes V No	Depth (inches): 6 9	•
Water Table Present? Yes V No	Depth (inches): 10%	1
Saturation Present? Yes A No	Tank of	and Hydrology Present? Voc.
(includes capillary fringe)	Veti	and Hydrology Present? Yes No
Describe Recorded Data (stream gauge, monito	ring well, aerial photos, previous inspections),	if available:
Remarks:		
•	•	•
		•

WETLAND DETERMINATION DATA FORM – Great Plains Region __ Sampling Date: 7/13 Project/Site: Billings Bapass City/County: Golfanstone State: MT Sampling Point: Applicant/Owner: MMT Investigator(s): L. Stragis, G. Rand Section, Township, Range: S17, TIN, R27E Local relief (concave, bonvex, none): Landform (hillslope, terrace) etc.): Lat: Long: Subregion (LRR): ___ NWI classification: Uplamd Soil Map Unit Name: _____ Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.) Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Are "Normal Circumstances" present? Yes _____ Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. Yes _____ No ____ Hydrophytic Vegetation Present? Is the Sampled Area Yes ____ No ____ Hydric Soil Present? within a Wetland? Yes . No ____ Wetland Hydrology Present? Remarks: parigated meadown VEGETATION – Use scientific names of plants. **Dominance Test worksheet:** Absolute Dominant Indicator Tree Stratum (Plot size: _____) % Cover Species? Status Number of Dominant Species That Are OBL, FACW, or FAC 1, ______ (A) (excluding FAC-): Total Number of Dominant Species Across All Strata: ____ = Total Cover Percent of Dominant Species _ (A/B) That Are OBL, FACW, or FAC: Sapling/Shrub Stratum (Plot size: _____) Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species _____ x 1 = ____ FACW species _____ x 2 = ____ FAC species _____ x 3 = ____ FACU species _____ x 4 = ____ Herb Stratum (Plot size: _ 1. Smooth brome UPL species _____ x 5 = ____ Column Totals: _____ (A) ____ (B) 3 Meadow fortal aloberums praters 10 FACE Prevalence Index = B/A = ____ Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.01 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) ///// = Total Cover ¹Indicators of hydric soil and wetland hydrology must Woody Vine Stratum (Plot size: _____) be present, unless disturbed or problematic. Hydrophytic Vegetation _____ = Total Cover Present? % Bare Ground in Herb Stratum _____ Remarks: while to

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Profile Desc	ription: (Describe	to the dep	oth needed to docum	ent the i	ndicator	or confirm	n the absence of i	ndicators.)
Depth	Matrix	·		<u>c Features</u>		\		
(inches)	Color (moist)		Color (moist)		Type ¹	Loc ²	Texture	Remarks
0-8	10YR 3/1	<u>95</u>	10 YR 4/6	_5	4	PI	sit clay	
8-14	10 YR 3/1	65	(white)	201.	7	m	Sitt clau	see photo
		16	7 5 VID 4/	15	^	m		
***************************************	***************************************		-01K/6	10		11,		
				***************************************	,			
		- ——						
			=Reduced Matrix, CS			d Sand Gi		n: PL=Pore Lining, M=Matrix.
Hydric Soil I	indicators: (Applic	able to all	LRRs, unless other				Indicators for	Problematic Hydric Soils ³ :
Histosol	• •			leyed Mat				(A9) (LRR I, J)
	ipedon (A2)			edox (S5)				rie Redox (A16) (LRR F, G, H)
Black His				Matrix (Se	•			ce (S7) (LRR G)
	n Sulfide (A4)		*	lucky Mine			_	Depressions (F16)
	Layers (A5) (LRR I	•	-	leyed Mat				outside of MLRA 72 & 73)
	ck (A9) (LRR F, G, i			Matrix (F			Reduced V	• •
	Below Dark Surfac	e (A11)	Redox D					t Material (TF2)
	rk Surface (A12)			Dark Sur				ow Dark Surface (TF12)
	ucky Mineral (S1)			epression:				lain in Remarks)
	lucky Peat or Peat (ns Depres		-		ydrophytic vegetation and
a cm Min	cky Peat or Peat (S	3) (LKK F)	(MLH	RA 72 & 7	3 of LRR	H)	•	drology must be present,
Donatuinatium I		<u> </u>					unless dist	urbed or problematic.
	ayer (if present):	y ^{i.}						/
Type:		<u> </u>						
Depth (inc	hes):						Hydric Soil Pres	sent? Yes 🗸 No
Remarks:	***************************************							
			•					
	•						•	
a	40b							
YDROLOG								
	rology Indicators:							
Primary Indica	ators (minimum of o	ne required	l; check all that apply))			Secondary In	dicators (minimum of two required)
Sürface V	Vater (A1)		Salt Crust (E	311)			Surface	Soil Cracks (B6)
High Wat	er Table (A2)		Aquatic Inve		(B13)			Vegetated Concave Surface (B8)
Saturation			Hydrogen S					Patterns (B10)
Water Ma	the state of the s		Dry-Season					Rhizospheres on Living Roots (C3
	t Deposits (B2)		✓ Oxidized Rh			a Roote /		
			•	•	o OH FIVII	ig Noois (e tilled)
Drift Depo			(where no	•	I 10 11			Burrows (C8)
	or Crust (B4)		Presence of		• •	ı		n Visible on Aerial Imagery (C9)
Iron Depo	, ,		Thin Muck S					phic Position (D2)
	n Visible on Aerial Ir	nagery (B7	') Other (Expla	ain in Rem	arks)		FAC-Neu	ıtral Test (D5)
Water-Sta	ained Leaves (B9)	-					Frost-He	ave Hummocks (D7) (LRR F)
ield Observ	ations:			······			······································	
Surface Water	r Present? Ye	es1	lo Depth (inch	nes):		_		
Water Table F	/		lo Depth (inch			1		
Saturation Pre			lo Depth (inch			}	nd Hydrology Pre	esent? Yes No
includes capi		, u 1'	vo Deptil (inch			- weila	па пуагоюду РГе	sent tes No
		gauge, mo	nitoring well, aerial ph	otos, prev	rious insp	ections), i	f available:	
	/	•	•	•	•	•		
Remarks: /	<i>i</i>	i					······································	
CONTROL TO	A		1-01 A	1 A	,			
(probably tla	00001	, irrigated	y Ayr	om of	itch		
	,							

WETLAND DETERMINATION DATA FORM - Great Plains Region Project/Site: Billings Bupass city/County: Veillowstone State: MT Investigator(s): L. Schaals, G. Rand Section, Township, Range: 517,19,+20; TIN, R27 B Local relief (concave, convex <u>none)</u> Landform (hillslope, terrace, etc.): _____Lat: _______Long: ______ Subregion (LRR): _____ NWI classification: P&M /some Ripain Soil Map Unit Name: _____ 11 locations Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ____ (If no, explain in Remarks.) Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No _____ No _____ No _____ Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. Yes 1/ No _____ Hydrophytic Vegetation Present? Is the Sampled Area within a Wetland? Hydric Soil Present? Wetland Hydrology Present? Remarks: VEGETATION - Use scientific names of plants. Dominance Test worksheet: Absolute Dominant Indicator % Cover Species? Status Tree Stratum (Plot size: _____) Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): Total Number of Dominant Species Across All Strata: ____ = Total Cover Percent of Dominant Species (A/B) That Are OBL, FACW, or FAC: Sapling/Shrub Stratum (Plot size: 1. Red-orien dogwood, Cornus services 20 / FACU Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = ____ FAC species _____ x 3 = ____ = Total Cover FACU species _____ x4 = ____ Herb Stratum, (Plot size: ___ UPL species _____ x 5 = ____ Column Totals: _____ (A) ____ (B) canadensis 5 Prevalence Index = B/A = ___ R. cris pue <5 Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.01 · 4 - Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) → = Total Cover³ ¹Indicators of hydric soil and wetland hydrology must Woody Vine Stratum (Plot size: _____) be present, unless disturbed or problematic. Hydrophytic Vegetation = Total Cover Present? % Bare Ground in Herb Stratum Ash werhanging didds Remarks: Whos:

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Profile Description: (Describe to the	depth needed to document the indicator o	r confirm the absence of indicators.)
Depth Matrix	Redox Features	
(inches) Color (moist) %	Color (moist) % Type ¹	<u> </u>
1-0-6 104Kyo 40	2 109 Ra/1 10 15	M SHOOM Solcallina
<u>6-107 </u>	10 47R5/2 5 C 1	M sandusiblinam (56)
¹Type: C=Concentration, D=Depletion, F Hydric Soil Indicators: (Applicable to Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) (LRR F) 1 cm Muck (A9) (LRR F, G, H) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) 2.5 cm Mucky Peat or Peat (S2) (LR	Sandy Gleyed Matrix (S4) Sandy Redox (S5) X Stripped Matrix (S6) Loamy Mucky Mineral (F1) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8)	Indicators for Problematic Hydric Soils ³ : 1 cm Muck (A9) (LRR I, J) Coast Prairie Redox (A16) (LRR F, G, H) Dark Surface (S7) (LRR G) High Plains Depressions (F16)
5 cm Mucky Peat or Peat (S3) (LRR Restrictive Layer (if present):	• • • • • • • • • • • • • • • • • • • •	
Type: Depth (inches):		Hydric Soil Present? Yes No
Remarks: Sdrallmg	has a combination of structing within 6"	Hexture bots 6) streaking
HYDROLOGY		
Wetland Hydrology Indicators:		
Primary Indicators (minimum of one requi	red; check all that apply)	Secondary Indicators (minimum of two required)
Surface Water (A1)	Salt Crust (B11)	Surface Soil Cracks (B6)
High Water Table (A2)	Aquatic Invertebrates (B13)	Sparsely Vegetated Concave Surface (B8)
Saturation (A3)	Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)
Water Marks (B1)	Dry-Season Water Table (C2)	Oxidized Rhizospheres on Living Roots (C3)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living	
Drift Deposits (B3)	(where not tilled)	Crayfish Burrows (C8)
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)	Saturation Visible on Aerial Imagery (C9)
Iron Deposits (B5)	Thin Muck Surface (C7)	(Geomorphic Position (D2)
Inundation Visible on Aerial Imagery	, , , , , , , , , , , , , , , , , , , ,	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)		Frost-Heave Hummocks (D7) (LRR F)
Field Observations:	f	
Surface Water Present? Yes	No Depth (inches):	
Water Table Present? Yes	No Depth (inches):	
Saturation Present? Yes (includes capillary fringe)	No Depth (inches):	Wetland Hydrology Present? Yes No
	monitoring well, aerial photos, previous inspe	ctions), if available:
Remarks: Dy director	; consducted channe	2 b/n RR & Coursen Rd.

WETLAND DETERMINATION DATA FORM - Great Plains Region Project/Site: Billings Bupass City/County: Ueillowstone Sampling Date: 7/13 State: MT Sampling Point: 52 Investigator(s): L. Straais, G. Rama Section, Township, Range: S17,19,20 TIN, R27E Local relief (concave, convex none): Slope (%): O 2 Landform (hillslope (terrace, etc.): Subregion (LRR): _____G NWI classification: PSW Soil Map Unit Name: Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ____ (If no, explain in Remarks.) * Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No _____ No ____ No ____ Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? $M_{\mathcal{O}}$ (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Is the Sampled Area Hydric Soil Present? within a Wetland? Wetland Hydrology Present? Remarks: Dee 52 boks like water start VEGETATION - Use scientific names of plants. Dominance Test worksheet: Absolute Dominant Indicator % Cover Species? Status Number of Dominant Species Tree Stratum (Plot size: _____) That Are OBL, FACW, or FAC (A) (excluding FAC-): Total Number of Dominant Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B) Sapling/Shrub Stratum /Plot size: Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species _____ x 1 = ____ FACW species _____ x 2 = ____ FAC species _____ x 3 = ____ = Total Cover FACU species _____ x 4 = ____ Herb Stratum (Plot size: 1. Read canary grass Parindinam/oth V FACE UPL species _____ x 5 = ____ Column Totals: _____ (A) ____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: ______ - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.01 4 - Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) 100 + = Total Cover ¹Indicators of hydric soil and wetland hydrology must Woody Vine Stratum (Plot size: ____) be present, unless disturbed or problematic. Hydrophytic Vegetation ____ = Total Cover Present? % Bare Ground in Herb Stratum _____ Remarks:

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\sim	L	_	

Sampling Point: PPS

	in needed to document the indicator of comp	irm the absence of indicators.)
Depth Matrix	Redox Features	e species
(inches) Color (moist) %	Color (moist) % Type ¹ Loc ²	
104R211 100	·	Stitudau ban
4-8" 10 VR4/2" 100	?	sandu mann
8"+ 10488/2: 50%	109K9/27/90 0 00	clay our mexce lawer
		- conflam was contained
		· · · · · · · · · · · · · · · · · · ·
¹Type: C=Concentration D=Depletion RM=F	Reduced Matrix, CS=Covered or Coated Sand (Grains. ² Location: PL≕Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to all L		Indicators for Problematic Hydric Soils ³ :
Histosol (A1)	Sandy Gleyed Matrix (S4)	1 cm Muck (A9) (LRR I, J)
Histic Epipedon (A2)	Sandy Redox (S5)	Coast Prairie Redox (A16) (LRR F, G, H)
Black Histic (A3)	Stripped Matrix (S6)	Dark Surface (S7) (LRR G)
Hydrogen Sulfide (A4)	Loamy Mucky Mineral (F1)	High Plains Depressions (F16)
Stratified Layers (A5) (LRR F)	Loamy Gleyed Matrix (F2)	(LRR H outside of MLRA 72 & 73)
1 cm Muck (A9) (LRR F, G, H)	Depleted Matrix (F3)	Reduced Vertic (F18)
Depleted Below Dark Surface (A11) Thick Dark Surface (A12)	Redox Dark Surface (F6)	Red Parent Material (TF2)
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7) Redox Depressions (F8)	Very Shallow Dark Surface (TF12)
2.5 cm Mucky Peat or Peat (S2) (LRR G,		Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and
5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)	wetland hydrology must be present,
, , , , ,	(,	unless disturbed or problematic.
Restrictive Layer (if present):		
Туре:		
Depth (inches):		Hydric Soil Present? Yes No
Remarks: not quite there as !	hudric soil but other d	aterplots (2)
for this wetland c	hydric soil but other d and met the criterioni	M 56 or F3
1		4
TAGETHOL TEACH	a ora annuluti as a	
A	concentations	
YDROLOGY	concentations	
YDROLOGY Wetland Hydrology Indicators:	· · · · · · · · · · · · · · · · · · ·	
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; of	check all that apply)	Secondary Indicators (minimum of two required)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; of the control of the con	check all that apply) Salt Crust (B11)	Surface Soil Cracks (B6)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; of the control of the con	check all that apply) Salt Crust (B11) Aquatic Invertebrates (B13)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; of the control of the con	check all that apply) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; of the control of the con	check all that apply) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2)	 Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; of the control of the con	check all that apply) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (C3) (where tilled)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; of the control of the con	check all that apply) Salt Crust (B11) Aquatic invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (where not tilled)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (C3) (where tilled) Crayfish Burrows (C8)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; of the control of the con	check all that apply) Salt Crust (B11) Aquatic invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (where not tilled) Presence of Reduced Iron (C4)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	check all that apply) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; of the control of the con	check all that apply) Salt Crust (B11) Aquatic invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (where not tilled) Presence of Reduced Iron (C4)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (Where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)	check all that apply) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
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VDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; of the control of the con	check all that apply) Salt Crust (B11) Aquatic invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): Depth (inches): Wetloring well, aerial photos, previous inspections),	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5) Frost-Heave Hummocks (D7) (LRR F)

WETLAND DETERMINATION DATA FORM - Great Plains Region Project/Site: Billings Bypass/Johnson 1 City/County: <u>Yellowstone</u> Sampling Date: <u>9/13//1</u> State: MT Sampling Point: DPQ1 (S) Investigator(s): L. Stragis, G. Rand Section, Township, Range: S17, 19,20 TIN R27 E Landform (httlslope, terrace, etc.): Local relief (concave, convex, none): Slope (%): (7-2) _____ Lat: ______ Long: _____ Datum: Subregion (LRR): NWI classification: PEM//Riparia Soil Map Unit Name: ____ Are climatic / hydrologic conditions on the site typical for this time of year? Yes ______ No _____ (If no, explain in Remarks.) Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? MARE "Normal Circumstances" present? Yes _____ No ___ Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. Yes _____ No ____ Hydrophytic Vegetation Present? Is the Sampled Area within a Wetland? water absent in this large can al some as wetland S VEGETATION – Use scientific names of plants. Dominance Test worksheet: Absolute Dominant Indicator Tree Stratum (Plot size: _____) % Cover Species? Status Number of Dominant Species 1._____ That Are OBL, FACW, or FAC (A) (excluding FAC-): Total Number of Dominant Species Across All Strata: ____ = Total Cover Percent of Dominant Species ____ (A/B) Sapling/Shrub Stratum (Plot size: _____) That Are OBL, FACW, or FAC: _ Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species _____ x 1 = ____ FACW species _____ x 2 = ____ FAC species _____ x 3 = ____ Herb Stratum (Plot size:

1. Reed canary grass: Parumdinga 90 FACW FACU species _____ x 4 = _____ UPL species _____ x 5 = ____ Column Totals: _____ (A) _____ (B) 2 medidow to tail alobaurus 10 3. <u>bratenis</u> ____ Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: ✓ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.01. ____ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) = Total Cover ¹Indicators of hydric soil and wetland hydrology must Woody Vine Stratum (Plot size: _____) be present, unless disturbed or problematic. Hydrophytic Vegetation Present? % Bare Ground in Herb Stratum ____ Covidor for wildlife

Day + tracks + cojote soft, bare ground a base

Great F Remarks:

Sampling Point:

	needed to document the indicator or con	infil the absence of indicators.)
Depth Matrix	Redox Features Color (moist) % Type ¹ Loc	Texture Remarks
(inches) Color (moist), %	Color (moist) % Type Loc	Co
D-6 10 K-11 100 -		- My many
6-16 109K T/A /0	1 VR 41	and the kind and and and
	1,5912916 10 C W	1 Combain
	~ 1 w	
¹ Type: C=Concentration, D=Depletion, RM=R		
Hydric Soil Indicators: (Applicable to all Li		Indicators for Problematic Hydric Soils ³ :
Histosol (A1)	Sandy Gleyed Matrix (S4)	1 cm Muck (A9) (LRR I, J)
Histic Epipedon (A2)	Sandy Redox (S5)	Coast Prairie Redox (A16) (LRR F, G, H)
Black Histic (A3)	Stripped Matrix (S6)	Dark Surface (S7) (LRR G)
/Hydrogen Sulfide (A4) vn culveta Stratified Layers (A5) (LRR F)	Loamy Mucky Mineral (F1) Loamy Gleyed Matrix (F2)	High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
1 cm Muck (A9) (LRR F, G, H)	Depleted Matrix (F3)	Reduced Vertic (F18)
Depleted Below Dark Surface (A11)	Redox Dark Surface (F6)	Red Parent Material (TF2)
Thick Dark Surface (A12)	Depleted Dark Surface (F7)	Very Shallow Dark Surface (TF12)
Sandy Mucky Mineral (S1)	Redox Depressions (F8)	Other (Explain in Remarks)
2.5 cm Mucky Peat or Peat (S2) (LRR G,		³ Indicators of hydrophytic vegetation and
5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)	wetland hydrology must be present,
		unless disturbed or problematic.
Restrictive Layer (if present):		
Type:	_	
Depth (inches):	_	Hydric Soil Present? Yes No
Remarks:		
YDROLOGY		
Vetland Hydrology Indicators:		
Primary Indicators (minimum of one required;		
	check all that apply)	Secondary Indicators (minimum of two required)
•	· · · · · · · · · · · · · · · · · · ·	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6)
Surface Water (A1) High Water Table (A2)	Salt Crust (B11) Aquatic Invertebrates (B13)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8)
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Surface Water (A1) High Water Table (A2) Saturation (A3)	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) 🔗 👊	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3)
Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3)
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Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) ield Observations: urface Water Present? Yes No vater Table Present? Yes No aturation Present? Yes No ncludes capillary fringe) rescribe Recorded Data (stream gauge, monit	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roc (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): Depth (inches):	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) ots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) X Geomorphic Position (D2) FAC-Neutral Test (D5) Frost-Heave Hummocks (D7) (LRR F)

WETLAND DETERMINATION DATA FORM - Great Plains Region By pass City/County: Yellowstone. Sampling Date: 7/13/,
State: MT Sampling Point: T-) Applicant/Owner: L. Stragis G. Rand Section, Township Range: S19, TIN, R27E Investigator(s): ____ Local relief (concave) convex, none): ______ Slope (%): _____ Landform (hillslope, terrace) etc.) _____ Lat: _____ Long: _____ Datum: Subregion (LRR): NWI classification: PEM Soil Map Unit Name: ___ Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ____ (If no, explain in Remarks.) Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? \(\gamma_0 \) Are "Normal Circumstances" present? Yes ____ No _____ Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. Yes 1/ No _____ Hydrophytic Vegetation Present? Is the Sampled Area Yes _____ No ____ Hydric Soil Present? within a Wetland? Wetland Hydrology Present? Yes 1 Remarks: distrib between intersection VEGETATION – Use scientific names of plants. Dominance Test worksheet: Absolute Dominant Indicator Tree Stratum (Plot size: _____) % Cover Species? Status Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): (A) Total Number of Dominant Species Across Ali Strata: _____ = Total Cover Percent of Dominant Species Sapling/Shrub Stratum (Plot size: _____) That Are OBL, FACW, or FAC: __ _ (A/B) Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species _____ x 1 = ____ FACW species _____ x 2 = ____ FAC species _____ x 3 = ____ FACU species _____ x 4 = ____ Herb Stratum (Plot size: ___ 1. Reed canony gress, Parundinava 100 V FACH UPL species _____ x 5 = ____ Column Totals: _____ (A) ____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: _____Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.01 4 - Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) _____ = Total Cover ¹Indicators of hydric soil and wetland hydrology must Woody Vine Stratum (Plot size: _____) be present, unless disturbed or problematic. Hydrophytic Vegetation _____ = Total Cover Present? % Bare Ground in Herb Stratum _____ Remarks:

US Army Corps of Engineers

Sampling Point: 71

Profile Desc	cription: (Describe	to the dep	th needed to docun	ient the ii	nuicator	or contir	n the absence o	or indicators.)
Depth	Matrix			x Features				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-10	10 48 By	90	75 5/6	10_	<u> </u>	\underline{m}	SIJ+loam.	near
10-6	10 YR 4/2	80%	10 yr 2/1.	10	<u></u>	$_{\rm m}$	Silt laan	or gley (black)
• 50	/		755/6	10	0	M	,	redd o
							··········	
·				` <u>`</u>				
				,				
,			,					

				$\frac{i}{i}$				
······································	oncentration, D=Depl		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			d Sand Gi		tion: PL=Pore Lining, M=Matrix.
-	Indicators: (Applica	able to all	LRRs, unless other	wise note	d.)		Indicators f	or Problematic Hydric Solls³:
Histosol			Sandy G	-				ick (A9) (LRR I, J)
	oipedon (A2)			edox (S5)				rairie Redox (A16) (LRR F, G, H)
Black Hi				Matrix (Se				rface (S7) (LRR G)
	en Sulfide (A4)		· ·	łucky Min				ins Depressions (F16)
	Layers (A5) (LRR F	•	-	leyed Ma				H outside of MLRA 72 & 73)
	ick (A9) (LRR F, G, H			Matrix (F				d Vertic (F18)
	d Below Dark Surface ark Surface (A12)	(A11)		ark Surfac				ent Material (TF2)
	Ark Surface (A12) Mucky Mineral (S1)		•	Dark Sur				allow Dark Surface (TF12) xplain in Remarks)
	nucky willerar (3 r) Aucky Peat or Peat (5	22) /I PP (2		epression ins Depres		16)		hydrophytic vegetation and
	icky Peat or Peat (S3	, ,	· — -	RA 72 & 7	,	-		nydrology must be present,
J ON WIG	ony real or real (00	(Litter)	(HILL)	\A (2 U)	O DI LIVIN	11)		isturbed or problematic.
Restrictive L	Layer (if present):						1)
Type:	, , , , , , , , , , , , , , , , , , , ,							1
	ches):						Hydric Soil P	resent? Yes No
• •			*******		***********	······································	Tiyuno oon r	resent: res No
Remarks:								
YDROLO	ĠY				•			
	drology Indicators:			· · · · · · · · · · · · · · · · · · ·				
			e almande all Almah america				Cocondan	. Indicators (minimum of hus assuing
. /	cators (minimum of or	ie requireo						Indicators (minimum of two required
Surface '			Salt Crust (ce Soil Cracks (B6)
. / -	ter Table (A2)		Aquatic Inve					ely Vegetated Concave Surface (B8)
✓ Saturation			Hydrogen S					age Patterns (B10)
	arks (B1)		Dry-Season					ed Rhizospheres on Living Roots (C
Sedimen	it Deposits (B2)		Oxidized Rt	nizosphere	es on Livi	ng Roots (ere tilled)
Drift Dep	osits (B3)		(where n	ot tilled)			Crayfi	sh Burrows (C8)
Algal Ma	t or Crust (B4)		Presence of	f Reduced	Iron (C4)	}	Satura	ition Visible on Aerial Imagery (C9)
Iron Dep	osits (B5)		Thin Muck S	Surface (C	7)		Geom	orphic Position (D2)
Inundatio	on Visible on Aerial In	nagery (B7) Other (Expl	ain in Ren	narks)		FAC-1	leutral Test (D5)
Water-St	tained Leaves (B9)						Frost-	Heave Hummocks (D7) (LRR F)
Field Observ	/ations:		•					
Surface Wate	er Present? Ye	s _\/ _N	lo Depth (incl	hes):	(1)			1
Water Table		s 7/ N	lo Depth (incl		077	_		
Saturation Pr			lo Depth (incl		ٽ	Watt	and Hydrology I	Present? Yes No
		·	ոշերը (iuci	150/		- Meris	and myundidgy i	resent: 165/ NO
	mary maye;					o ofice of	if available:	
(includes cap	corded Data (stream o	gauge, mor	nitoring well, aerial pl	notos, pre	vious insp	ecdons),	ii avallable.	
(includes cap		gauge, mor	nitoring well, aerial pl	notos, pre	vious insp	ections),	n avallable.	•
(includes cap Describe Rec		gauge, mor	nitoring well, aerial pl	notos, pre	vious insp	ections),	n avallable.	
(includes cap		gauge, mor	nitoring welt, aerial pl	notos, pre	vious insp	ecdons),	ii avallable.	
includes cap Describe Rec		gauge, mor	itoring well, aerial pl	notos, pre	vious insp	ections),	avanabie.	

WETLAND DETERMINATION DATA FORM – Great Plains Region

roject/Site: Billing Bypass	C	Sty/County: Sello	Note Sampling Date: 7/13
roject/Site: 1511117 5 4 pa	······································	Ry/County	State: MYT Sampling Point: 7-2
pplicant/Owner: IIII)		Section Township Pan	SIG TIN RATE
pplicant/Owner: MBT Onvestigator(s): L. Stragis, G. Rand		Section, Township, Ivan	Slope (%):
andform (hillslope, terrace, etc.):		_ocal feller (concave, co	Datum:
ubregion (LRR):	Lat:		Long.
Soil Map Unit Name:			
Are climatic / hydrologic conditions on the site typical for this	s time of yea	r? Yes/_ No	(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrologys	ignificantly d	listurbed? No Are "N	Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology n	aturally prob	olematic? $\mathcal{N}_{\mathcal{O}}$ (If nee	eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map	showing	sampling point lo	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes N	10	is the Sampled	Area
Hydric Soil Present? Yes N		within a Wetlan	
Wetland Hydrology Present? Yes N	. /	Within a Wedan	
Remarks:			
•			·
and the second s	.4.		
VEGETATION – Use scientific names of plan		Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)		Species? Status	Number of Dominant Species
1			That Are OBL, FACW, or FAC
2.			(excluding FAC-): (A)
3.			Total Number of Dominant Species Across All Strata: (B)
A			Species Across All Strata: (B)
		= Total Cover	Percent of Dominant Species
Sapling/Shrub Stratum (Plot size:)			That Are OBL, FACW, or FAC: (A/B)
1			Prevalence Index worksheet:
2.			Total % Cover of: Multiply by:
3.			OBL species x1 =
4.			FACW species x 2 =
5		= Total Cover	FAC species x 3 =
Herb Stratum (Plot size:)		_	FACU species x 4 =
1. Smooth brome B. informis	_100_	w up!	UPL species x5 =
2.			Column Totals: (A) (B)
3.			Prevalence Index = B/A =
4		·	Hydrophytic Vegetation Indicators:
5			1 - Rapid Test for Hydrophylic Vegetation
6			2 - Dominance Test is >50%
7	······································	, <u></u>	3 - Prevalence Index is ≤3.0¹
8			4 - Morphological Adaptations (Provide supporting
9			data in Remarks or on a separate sheet)
10		= Total Cover	Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size:)		- Loral Coses	Indicators of hydric soil and wetland hydrology must
1			be present, unless disturbed or problematic.
2.			Hydrophytic
		= Total Cover	Vegetation Present? Yes No
% Bare Ground in Herb Stratum			, i odini
Remarks:	`		
1		,	
		•	

Profile Description: (Describe to the depth ne	eded to document the indicator or con	firm the absence of indicators)
	Redox Features	
	olor (moist) % Type ¹ Loc ²	
0-5 10×10 3/2 100		Toxidio Nonidino
i property	3	
\	-	
<u> </u>		

Type: C=Concentration, D=Depletion, RM=Redu		
lydric Soil Indicators: (Applicable to all LRRs	,	Indicators for Problematic Hydric Soils ³ :
Histosol (A1)	Sandy Gleyed Matrix (S4)	1 cm Muck (A9) (LRR I, J)
Histic Epipedon (A2)	Sandy Redox (S5)	Coast Prairie Redox (A16) (LRR F, G, H)
Black Histic (A3)	Stripped Matrix (S6)	Dark Surface (S7) (LRR G)
Hydrogen Sulfide (A4)	Loamy Mucky Mineral (F1)	High Plains Depressions (F16)
Stratified Layers (A5) (LRR F) 1 cm Muck (A9) (LRR F, G, H)	Loamy Gleyed Matrix (F2)	(LRR H outside of MLRA 72 & 73)
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)	Reduced Vertic (F18)
Thick Dark Surface (A12)	Redox Dark Surface (F6) Depleted Dark Surface (F7)	Red Parent Material (TF2)
Sandy Mucky Mineral (S1)	Redox Depressions (F8)	Very Shallow Dark Surface (TF12)
2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	High Plains Depressions (F16)	Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and
_ 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)	wetland hydrology must be present,
	(MEION 12 OF DICITION)	unless disturbed or problematic.
Type:hard pan Depth (inches):		Hudrig Call Duranti Van 11.
emarks:		Hydric Soil Present? Yes No
smarts.		
•		
'DROLOGY		
etland Hydrology Indicators:		
etland Hydrology Indicators:	: all that apply)	Secondary Indicators (minimum of two require
etland Hydrology Indicators: imary Indicators (minimum of one required; check	Salt Crust (Deal	
etland Hydrology Indicators: imary Indicators (minimum of one required; check Surface Water (A1)		Surface Soil Cracks (B6)
etland Hydrology Indicators: imary Indicators (minimum of one required; check Surface Water (A1) High Water Table (A2)	_ Salt Crust (811) h 2	Surface Soil Cracks (B6)Sparsely Vegetated Concave Surface (B6)
etland Hydrology Indicators: imary Indicators (minimum of one required; check Surface Water (A1) High Water Table (A2) Saturation (A3)	Salt Crust (811))) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	Surface Soil Cracks (B6)Sparsely Vegetated Concave Surface (B8Drainage Patterns (B10)
etland Hydrology Indicators: imary Indicators (minimum of one required; check Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2)	 Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B6) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (6)
etland Hydrology Indicators: imary Indicators (minimum of one required; check Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8 Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C8) (where tilled)
etland Hydrology Indicators: imary Indicators (minimum of one required; check Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (where not tilled)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C8) (where tilled) Crayfish Burrows (C8)
etland Hydrology Indicators: imary Indicators (minimum of one required; check Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	Salt Crust (811) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (where not tilled) Presence of Reduced Iron (C4)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C8) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9)
etland Hydrology Indicators: imary Indicators (minimum of one required; check Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	Salt Crust (811) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8 Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C8) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
etland Hydrology Indicators: imary Indicators (minimum of one required; check Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7)	Salt Crust (811) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (where not tilled) Presence of Reduced Iron (C4)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8 Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C8) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5)
etland Hydrology Indicators: imary Indicators (minimum of one required; check Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)	Salt Crust (811) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8 Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C8) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
etland Hydrology Indicators: imary Indicators (minimum of one required; check Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)	Salt Crust (811) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8 Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C8) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5)
etland Hydrology Indicators: imary Indicators (minimum of one required; check Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Indicated Water Present? Yes No	Salt Crust (811) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8 Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C8) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) ald Observations: Irface Water Present? Yes No	Salt Crust (811) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): Depth (inches):	Sparsely Vegetated Concave Surface (B8 Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (0 s (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5) Frost-Heave Hummocks (D7) (LRR F)
etland Hydrology Indicators: imary Indicators (minimum of one required; check Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) eld Observations: rface Water Present? Yes No	Salt Crust (811) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): Depth (inches):	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8 Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C8) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5)

WETLAND DETERMINATION DATA FORM – Great Plains Region

		11 /1	1		1/12/11
Project/site: Billings Bypass	City/0	County: <u>Sellの</u>	NSVOYIO.	Sampling Date:	71711
Aunthornt/Ourpor: [XII]					,
nvestigator(s): L. Stragis, G.R.	and Secti	on, Township, Ran	ge: <u>\$19, T.I.N</u>	, R271 2	
andform (hillslope, terrace, etc.): OF OND	bions Loca	al relief (concave) c	onvex, none):	Slope (%	6): <u>(7</u>
Subragion (LBB):	Lat:		Long:	Datum:	
Soil Map Unit Name:			NWI classific	ation: <u>PEM</u>	
Are climatic / hydrologic conditions on the site typ	vical for this time of year?	Yes \ No	(If no, explain in R	emarks.)	
Are Vegetation, Soil, or Hydrology	aignificantly distu	rhed211 Are "I	Normal Circumstances" r	oresent? Yes	No Lun
Are Vegetation, Soil, or Hydrology	/ Significantly dista	outing All . He may	adad avalain any answe	rs in Remarks.)	
Are Vegetation, Soil, or Hydrology	/ naturally problem	alle: 10/8 (Il nee	cada, explain any anon-		
SUMMARY OF FINDINGS – Attach si	ite map showing sar	npling point lo	ocations, transects	, important featur	res, etc.
Hydrophytic Vegetation Present? Yes	VNo		•	/	
Hydrophytic Vegetation Present? Yes _ Hydric Soil Present? Yes _		Is the Sampled	, y /	No	
Wetland Hydrology Present? Yes _		within a Wetlan	a? res <u>//</u>		
Remarks:		ot-la	ndo connec	ted to TIC	and N
Sworounded by Interstate	e milereseture	illo va	mos connect		
r		٠ ی			
- bhoto N 3	•				
VEGETATION – Use scientific names			Dominance Test work	(choot:	
T OLD (Olst size)		minant Indicator ecies? Status	Number of Dominant S		
Tree Stratum (Plot size:)	<u> 78 00 VCI</u> <u>.0p</u>	SOISO. CLASS	That Are OBL, FACW,		
1		,	(excluding FAC-):		(A)
2.			Total Number of Domin	nant	
			Species Across All Stra		(B)
4	= To	otal Cover	Percent of Dominant S	inecies	
Sapling/Shrub Stratum (Plot size:		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	That Are OBL, FACW,		(A/B)
1			Prevalence Index wo	rkehoot:	
2.				Multiply by:	
3.				x1=	
4.			3	x2=	
5.			1	x3=	
	= T	otal Cover	1	x4=	
Herb Stratum (Plot size:) 1. Road Can alm grass, Paru	1 - 1701	FACILI		×5=	
1 Kood comain grass, Fare	m dimica ///	<u> </u>		(A)	
2					
3			_	x = B/A =	
4			Hydrophytic Vegetat		
5				Hydrophytic Vegetation	n
6			2 - Dominance Te	st is >50%	
7.	·		3 - Prevalence Inc	dex is ≤3.0¹	
8			4 - Morphological	Adaptations ¹ (Provide	supporting
9				ks or on a separate she	
10			Problematic Hydr	ophytic Vegetation ¹ (Ex	(plain)
124 Land 185 - a Stratum / Plat cita:	~~~~~	otal Cover	¹ Indicators of hydric s	oil and wetland hydrolo	gy must
Woody Vine Stratum (Plot size:			be present, unless dis	sturbed or problematic.	
2.			Hydrophytic	/	
6.	= 1		Vegetation	/es No	
% Bare Ground in Herb Stratum			Present? Y	69 140	
Remarks:					
pit s' from edge	of water		Market .		
	\lor				
				0	Iorgian 2.0
				Great Plains – V	/ersior

		to the dep				or confirm	the absence of indi	cators.)		
Depth (inches)	<u>Matrix</u> Color (moist)	%	Color (moist)	ox Feature %	rs Type¹	Loc ²	Texture	Remarks		
(Inches)		90	7.5	- <u>- /0</u>	- TYPE	100		sedox Would		
1 - 1	10 YR 3/1			- 44		\longrightarrow	Siltyolan	Bericix (January)		
4-16	_ <u>_10 YR 4 </u> _	<u>80</u>	10 YR, 3),	_ <u> </u>		<u> </u>				
	r:		75/6	5		10				
			1.		414.77					
				-,						
,										
	Concentration, D=Dep					d Sand Gr		PL=Pore Lining, M=Matrix.		
Hydric Soil	Indicators: (Applic	able to all	LRRs, unless othe	rwise not	ed.)			oblematic Hydric Soils ³ :		
Histoso	` '			Gleyed Ma			1 cm Muck (A			
	Epipedon (A2)		•	Redox (S5			Coast Prairie Redox (A16) (LRR F, G, H)			
	listic (A3)			d Matrix (S	-		Dark Surface			
	en Sulfide (A4)			Mucky Mi			High Plains D			
	ed Layers (A5) (LRR I		· ·	Gleyed M			•	tside of MLRA 72 & 73)		
-	luck (A9) (LRR F, G,			ed Matrix (Reduced Vert			
34.	ed Below Dark Surfac	e (A11)		Dark Surfa			Red Parent M			
·	Dark Surface (A12)		· ·		ırface (F7)		Very Shallow Other (Explain	Dark Surface (TF12)		
	Mucky Mineral (S1)	CO) // DD /		Depressio		16)		ophytic vegetation and		
	Mucky Peat or Peat (lucky Peat or Peat (S				essions (F1 73 of LRR	-	•	logy must be present,		
5 GH W	lucky real of real (S	J) (LIXIX II)	(i ai t	.IXA 12 0	15 OI LIXIX	11)	-	ed or problematic.		
Restrictive	Layer (if present):						111033 433(41)	ed of problemation		
Type:	-						 	1/		
· · · ·	nches):				*		Hydric Soil Preser	nt? Yes No		
Remarks:			·				1 -			
Ttomanto.										
NADO! C	NOV									
HYDROLO					·····			***************************************		
-	/drology Indicators: icators (minimum of o	na raquiras	li abadi all that ann	lu)			Secondary India	ators (minimum of two required)		
		ne required								
^	Water (A1)		Salt Crust				Surface Soi			
	ater Table (A2)		Aquatic In					egetated Concave Surface (B8)		
Saturation (A3) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10)										
Water Marks (B1) Ory-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C										
	ent Deposits (B2)		✓ Oxidized I			ng Roots (•		
	posits (B3)		• •	not tilled)			Crayfish Bu			
Algal M	lat or Crust (B4)				ed Iron (C4) ,		/isible on Aerial Imagery (C9)		
Iron De	posits (B5)		Thin Mucl	Surface ((C7)			c Position (D2)		
Inundat	Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5)						al Test (D5)			
Water-S	Stained Leaves (B9)						Frost-Heave	e Hummocks (D7) (LRR F)		
Field Obser	rvations:	•						,		
Surface Wat	ter Present? Y	es 1	No <u>X</u> Depth (in	ches):				,		
Water Table	Present? Y	es √ 1	No Depth (in	ches):	213					
Saturation P			No Depth (in	ches):	55)	Wetla	and Hydrology Prese	nt? Yes 1 No		
(includes ca	pillary fringe)									
	ecorded Data (stream	gauge, mo	nitoring well, aerial	photos, pr	evious insp	ections), i	f available:			
		÷					·			
Remarks:	\		1			<u> </u>	,			
	· 1 1 !	m., ======	1 - dead	lena	1 600	<i>a</i> .				
(,	(1 /MODIA +1)	$m \sim 1$	1 -1/10000	-, 0,,						

WETLAND DETERMINATION DATA FORW - C	1 /
Project/Site: Sillings Pupass City/County: Yell	Sampling Date: 7/4//
Applicant/Owner: MYSTO	State: MI Sampling Point: W/ (Fuet land
Investigator(s): L. Stragis, J. Gage Section, Township, Ran Landform (hillslope, terrace, etc.): Local relief (concave, c	ge: <u>S/9, TIN, R27E</u>
Landform (hillslope, terrace, etc.): Local relief(concave, c	onvex, none):Slope (%)
Subregion (LRR): Lat:	Long: Datum:
Soil Map Unit Name:	NWI classification: FVN
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No	(B flo, explain at Normanio.)
Are Vegetation, Soil, or Hydrology significantly disturbed? $M_{\mathcal{V}}$ Are "N	Normal Circumstances" present? YesNo
Are Vegetation, Soil, or Hydrology naturally problematic? $\mathcal{N}_{\mathcal{O}}$ (If nea	eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sampling point lo	ocations, transects, important features, etc.
N/etland Hydrology Present?	d? Yes No
Remarks: Low spot @ in ramp & US-90 from Johnson	on Lane N. Wintersection
between culverto, between on ramp - Hwy	/TIOW 37N
VEGETATION – Use scientific names of plants.	Dominance Test worksheet:
Tree Stratum (Plot size:) Absolute Dominant Indicator Species? Status	Number of Dominant Species
1	That Are OBL, FACW, or FAC
2.	(excluding FAC-):
3	Total Number of Dominant Species Across All Strata: (B)
4.	
Sapling/Shrub Stratum (Plot size:)	Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
1	Prevalence Index worksheet:
2	Total % Cover of: Multiply by:
3	OBL species x 1 =
4	FACW species x 2 =
5 = Total Cover	FAC species x 3 =
Herb Stratum (Plot size:)	FACU species x 4 =
1. Catta V Patilolia 70 V OBL	UPL species x 5 =
2 Road canary gras farundinama 20 V FACW	Column Totals: (A) (B)
3. Showing militard, A. speciosa	Prevalence Index = B/A =
4 Curry Hock R. onispins 5	Hydrophytic Vegetation Indicators:
5. Poa, Blue cy vars P. pralinsis 10	1 - Rapid Test for Hydrophytic Vegetation
6	2 - Dominance Test is >50%
7	3 - Prevalence Index is ≤3.0 ¹
9	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
10.	Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size:)	¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1	
2 = Total Cover	Hydrophytic Vegetation
% Bare Ground in Herb Stratum	Present? Ye No
Remarks:	-

US Army Corps of Engineers

Profile Description: (Describe to the depth n	eeded to document the indicator or	confirm the absence of indicators.)			
Depth Matrix	Redox Features				
	Color (moist) % Type ¹	Loc ² Texture Remarks			
0-5 104R2/1		sandy lody			
5-14 10 YR 312 70 GL	WINN_30	sandy clay lown			
	37				
		week!			
	····				
	•				
Type: C=Concentration, D=Deptetion, RM=Re	ducad Matrix CS-Covered or Coafed	Sand Grains. ² Location: PL=Pore Lining, M=Matrix.			
Hydric Soil Indicators: Applicable to all LRF		Indicators for Problematic Hydric Soils ³ :			
Histosol (A1)	Sand Gleyed Matrix (S4)	1 cm Muck (A9) (LRR I, J)			
Histic Epipedon (A2)	Sandy Redox (S5)	Coast Prairie Redox (A16) (LRR F, G, H)			
Black Histic (A3)	Stripped Matrix (S6)	Dark Surface (S7) (LRR G)			
Hydrogen Sulfide (A4)	Loamy Mucky Mineral (F1)	High Plains Depressions (F16)			
Stratified Layers (A5) (LRR F)	Loamy Gleyed Matrix (F2)	(LRR H outside of MLRA 72 & 73)			
1 cm Muck (A9) (LRR F, G, H)	Depleted Matrix (F3)	Reduced Vertic (F18)			
Depleted Below Dark Surface (A11)	Redox Dark Surface (F6)	Red Parent Material (TF2)			
Thick Dark Surface (A12)	Depleted Dark Surface (F7)	Very Shallow Dark Surface (TF12)			
Sandy Mucky Mineral (S1)	Redox Depressions (F8)High Plains Depressions (F16)	Other (Explain in Remarks) 3Indicators of hydrophytic vegetation and			
2.5 cm Mucky Peat or Peat (S2) (LRR G, H 5 cm Mucky Peat or Peat (S3) (LRR F)	MLRA 72 & 73 of LRR H	• • • • • •			
5 CIT WILLRY FEAT OF FEAT (55) (LINCT)	(IBENA 12 G 10 OI ENTITY)	unless disturbed or problematic.			
Restrictive Layer (if present):					
Type:	_				
Depth (inches):	-	Hydric Soil Present? Yes V No No			
Remarks:					
1 July 180					
1 1/2	•				
HYDRÖLOGY					
Wetland Hydrology Indicators:					
Primary Indicators (minimum of one required; ch	eck all that apply)	Secondary Indicators (minimum of two require			
√ Surface Water (A1)	Salt Crust (B11)	Surface Soil Cracks (B6)			
High Water Table (A2) NA >/2"					
Saturation (A3)	Drainage Patterns (B10)				
✓ Saturation (A3) Hydrogen ∮ulfide Odor (C1) Drainage Patterns (B10) Water Marks (B1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots					
Sediment Deposits (B2)	Oxidized Rhizospheres on Living	Roots (C3) (where tilled)			
Drift Deposits (B3)	(where not tilled)	Crayfish Burrows (C8)			
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)	Saturation Visible on Aerial Imagery (C9)			
Iron Deposits (B5)	Thin Muck Surface (C7)	Geomorphic Position (D2)			
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	FAC-Neutral Test (D5)			
Water-Stained Leaves (B9)		Frost-Heave Hummocks (D7) (LRR F)			
Sield Observations:	^				
Soface Water Present? Yes V. No.	Depth (inches):				
Wafer Table Present? Yes No_	Depth (inches): 16	<u> </u>			
Saturation Present? Yes Vo	Depth (inches):	Wetland Hydrology Present? Yes No			
(includes capillary fringe)					
Describe Recorded Data (stream gauge, monitor	ring well, aerial photos, previous inspe	ctions), if available:			
Remarks: Flow STN in	esection on ramp	2 culvab			
1 1000 0 770 100					
•					

WETLAND DETERMINATION DATA FORM – Great Plains Region

nied/site: Billinas Bupass	City/Cour	14: Yellowstone	Sampling Date:	1//4///
oject/Site: Billings Bypass plicant/Owner: MbT	•	State: <u>W</u>	1T Sampling Point: _	1/1/2
restinatorist L. Stragis I	Section,	Township, Range: <u>怎!9</u>	TAIRZA	
ndform (hillslope, terrace etc.):	Local rel	ief (concave, convex, pone).	Slop	e (%): <u> </u>
ibregion (LRR):	l at·	Long:	Datun	n:
if Map Unit Name:		NWI	classification: UPIC	and
। Map Unit Name: e climatic / hydrologic conditions on the site typic	-1 for this time of year? Vac	No (If no exr	plain in Remarks.)	
			tances" present? Yes	√ No
e Vegetation, Soil, or Hydrology _			y answers in Remarks.)	
e Vegetation, Soil, or Hydrology _				
UMMARY OF FINDINGS – Attach site	map showing sampl	ing point locations, tra	nsects, important fea	atures, etc.
		the Sampled Area	در المسلم	r¢:
	No V	ithin a Wetland? Y	esNOCoP	
Remarks: See N 1				
EGETATION – Use scientific names of	of plants.			
	Absolute Domina		est worksheet:	
Free Stratum (Plot size:)		Trainbot of Bot	minant Species	
			, FACW, or FAC C=):	(A)
			of Dominant	
		Total Number Species Acros		(B)
	= Total (Cover Doroont of Do	minant Species	
Sapling/Shrub Stratum (Plot size:		That Are OBL	, FACW, or FAC:	(A/B)
		— Drawalance la	ndex worksheet:	
			over of: Multiply	/ hv·
		OBI species	x1=	
			s x 2 =	
		FAC species	x3 =	
Herb Stratum (Plot size:)	= Total	CAMAR I	x 4 =	
Blugges Postanous	40	•	x5=	
Tost wheat A. water	nadiu 30	Column Totals	s: (A)	(B)
smooth prono B was	ALOND 1		and Index: = D/A =	
	-		nce Index = B/A = Vegetation Indicators:	
		11,94101113110	Test for Hydrophytic Veget	ation
		- Tapio	nance Test is >50%	uv.,
			lence Index is ≤3.0¹	
3.			nological Adaptations ¹ (Prov	ide supporting
)		data ir	n Remarks or on a separate	sheet)
10			atic Hydrophytic Vegetation ¹	(Explain)
Woody Vine Stratum (Plot size:		Indicators of be present, up	hydric soil and wetland hyd nless disturbed or problema	rology must tic.
1				
6	= Total	Cover Vegetation		1/
% Bare Ground in Herb Stratum		.Present?	Yes No	V
Remarks:				
(Chano:				
Mariano.				

Profile Description: (Describe to th	e depth needed to document the indicator o	r confirm the absence o	f indicators.)		
Depth Matrix	Redox Features				
(inches) Color (moist) 9	Color (moist) % Type¹	Loc ² Texture	Remarks		
9-5- 10 VR 36					
The same of the sa					
		<u> </u>			
¹ Type: C=Concentration, D=Depletion	, RM=Reduced Matrix, CS=Covered or Coated	Sand Grains. ² Locat	ion: PL=Pore Lining, M=Matrix.		
	to all LRRs, unless otherwise noted.)		r Problematic Hydric Soils ³ :		
Histosol (A1)	Sandy Gleyed Matrix (S4)		ck (A9) (LRR I, J)		
Histic Epipedon (A2)	Sandy Redox (S5)		airie Redox (A16) (LRR F, G, H)		
Black Histic (A3)	Stripped Matrix (S6)		face (S7) (LRR G)		
Hydrogen Sulfide (A4)	Loamy Mucky Mineral (F1)		ns Depressions (F16)		
Stratified Layers (A5) (LRR F)	Loamy Gleyed Matrix (F2)	(LRR	H outside of MLRA 72 & 73)		
1 cm Muck (A9) (LRR F, G, H)	Depleted Matrix (F3)	Reduced	Vertic (F18)		
Depleted Below Dark Surface (A1:	1) Redox Dark Surface (F6)		ent Material (TF2)		
Thick Dark Surface (A12)	Depleted Dark Surface (F7)		Very Shallow Dark Surface (TF12)		
Sandy Mucky Mineral (S1)	Redox Depressions (F8)		plain in Remarks)		
2.5 cm Mucky Peat or Peat (S2) (L	• • • • • • • • • • • • • • • • • • • •		hydrophytic vegetation and		
5 cm Mucky Peat or Peat (S3) (LR	RRF) (MLRA 72 & 73 of LRR F	•	ydrology must be present,		
5-4:4:-		uniess ai	sturbed or problematic.		
Restrictive Layer (if present):					
— 1.:. ~ Æ					
Type: hand pan			b		
Type: hand care Depth (inches):	**************************************	Hydric Soil Pr	esent? Yes No		
April 4		Hydric Soil Pr	esent? Yes No l		
Depth (inches):		Hydric Soil Pr	esent? Yes No		
Depth (inches):		Hydric Soil Pr	esent? Yes No L		
Depth (inches):		Hydric Soil Pr	esent? Yes No 1		
Depth (inches):		Hydric Soil Pr	esent? Yes No L		
Depth (inches):Remarks:	-	Hydric Soil Pr	esent? Yes No		
Depth (inches): Remarks: YDROLOGY Vetland Hydrology Indicators:	uired: check all that anniv)				
Depth (inches): Remarks: YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one rec		Secondary	Indicators (minimum of two require		
Depth (inches): Remarks: YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one recommend) Surface Water (A1)	Salt Crust (B11)	Secondary Surfac	Indicators (minimum of two require e Soil Cracks (B6)		
Depth (inches): Remarks: YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one red Surface Water (A1) High Water Table (A2)	Salt Crust (B11) Aquatic Invertebrates (B13)	Secondary Surfac Sparse	Indicators (minimum of two require e Soil Cracks (B6) ly Vegetated Concave Surface (B8		
Depth (inches): Remarks: YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one recommend of the primary Indicators (minimum	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Şulfide Odor (C1)	Secondary Surfac Sparse Draina	Indicators (minimum of two require e Soil Cracks (B6) ly Vegetated Concave Surface (B8 ge Patterns (B10)		
Depth (inches):	 Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Şulfide Odor (C1) Dry-Season Water Table (C2) 	Secondary Surfac Sparse Draina Oxidize	Indicators (minimum of two require e Soil Cracks (B6) ly Vegetated Concave Surface (B8 ge Patterns (B10) ed Rhizospheres on Living Roots (
Depth (inches): Primary Indicators (minimum of one recommend) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living	Secondary Surfac Sparse Draina Oxidize g Roots (C3)	Indicators (minimum of two require e Soil Cracks (B6) bly Vegetated Concave Surface (B8 ge Patterns (B10) ed Rhizospheres on Living Roots (G re tilled)		
Depth (inches): Primary Indicators (minimum of one recommendation (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living (where not tilled)	Secondary Surfac Sparse Draina Oxidize g Roots (C3) (whe	Indicators (minimum of two require e Soil Cracks (B6) ely Vegetated Concave Surface (B8 ge Patterns (B10) ed Rhizospheres on Living Roots (C re tilled) h Burrows (C8)		
Depth (inches): Primary Indicators (minimum of one recompleted of the control of	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living (where not tilled) Presence of Reduced Iron (C4)	Secondary Surfac Sparse Draina Oxidize g Roots (C3) (whe Crayfis Satura	Indicators (minimum of two require e Soil Cracks (B6) ly Vegetated Concave Surface (B8 ge Patterns (B10) ed Rhizospheres on Living Roots (C re tilled) h Burrows (C8) tion Visible on Aerial Imagery (C9)		
Depth (inches): Primary Indicators (minimum of one recompleted in the second in the s	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living	Secondary Surfac Sparse Draina Oxidize g Roots (C3) (whe Crayfis Satura Geome	Indicators (minimum of two required a Soil Cracks (B6) ally Vegetated Concave Surface (B8) are Patterns (B10) and Rhizospheres on Living Roots (Gre tilled) and Burrows (C8) are tilled on Aerial Imagery (C9) are propried Position (D2)		
Depth (inches): Primary Indicators (minimum of one recommend) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imager	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living	Secondary Surfac Sparse Draina Oxidize G Roots (C3) (whe Crayfis Satura Geome FAC-N	Indicators (minimum of two require e Soil Cracks (B6) ely Vegetated Concave Surface (B8 ge Patterns (B10) ed Rhizospheres on Living Roots (Fre tilled) h Burrows (C8) tion Visible on Aerial Imagery (C9) prephic Position (D2) eutral Test (D5)		
Depth (inches):	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living	Secondary Surfac Sparse Draina Oxidize G Roots (C3) (whe Crayfis Satura Geome FAC-N	Indicators (minimum of two required a Soil Cracks (B6) ally Vegetated Concave Surface (Bigge Patterns (B10) and Rhizospheres on Living Roots (Fre tilled) the Burrows (C8) allon Visible on Aerial Imagery (C9) or proprice Position (D2)		
Depth (inches): Primary Indicators (minimum of one recommend) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imager Water-Stained Leaves (B9)	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living	Secondary Surfac Sparse Draina Oxidize G Roots (C3) (whe Crayfis Satura Geome FAC-N	Indicators (minimum of two require e Soil Cracks (B6) ely Vegetated Concave Surface (B8 ge Patterns (B10) ed Rhizospheres on Living Roots (Fre tilled) h Burrows (C8) tion Visible on Aerial Imagery (C9) prephic Position (D2) eutral Test (D5)		
Depth (inches): Primary Indicators (minimum of one recomposition (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imager Water-Stained Leaves (B9) ield Observations:	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living	Secondary Surfac Sparse Draina Oxidize g Roots (C3) (whe Crayfis Satura Geome FAC-N Frost-H	Indicators (minimum of two require e Soil Cracks (B6) ely Vegetated Concave Surface (B8 ge Patterns (B10) ed Rhizospheres on Living Roots (Fre tilled) h Burrows (C8) tion Visible on Aerial Imagery (C9) prephic Position (D2) eutral Test (D5)		
Depth (inches): Primary Indicators (minimum of one recompleted of the property of the propert	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) ry (B7) Other (Explain in Remarks)	Secondary Surfac Sparse Draina Oxidize g Roots (C3) (whe Crayfis Satura Geome FAC-N Frost-F	Indicators (minimum of two require e Soil Cracks (B6) ely Vegetated Concave Surface (B8 ge Patterns (B10) ed Rhizospheres on Living Roots (Core tilled) h Burrows (C8) tion Visible on Aerial Imagery (C9) prephic Position (D2) eutral Test (D5)		

Remarks:

WETLAND DETERMINATION DATA FORM - Great Plains Region Project/Site: Billings Bupass Johnson 2 City/County: 40/10 wstone Sampling Date: 7/13/11 Landform (hillslope, terrace) etc.): ______ Local relief (concave_convex, none): _____ Slope (%): _____ ___ Subregion (LRR): _____ Lat: _____ Long: _____ NWI classification: PEM Soil Map Unit Name: _____ Are climatic / hydrologic conditions on the site typical for this time of year? Yes 1 No _____ (If no, explain in Remarks.) Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Are "Normal Circumstances" present? Yes V ____ No ____ Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? \(\int_{\partial} \) (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Is the Sampled Area within a Wetland? Yes _____ No ____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Remarks: ditch & of wetland W/Johnson Lane Representational veg of entire wettern of large wetland complex VEGETATION – Use scientific names of plants. Dominance Test worksheet: Absolute Dominant Indicator Tree Stratum (Plot size: _____) Absolute % Cover Species? Status

1. Rissian place Amountifolia 10 FAC Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): Total Number of Dominant Species Across All Strata: Percent of Dominant Species Sapling/Shrub Stratum (Plot size: _____) That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species _____ x 1 = ____ FACW species _____ x 2 = _____ FAC species ____ x 3 = ____ FAC species _____ _____ = Total Cover FACU species _____ x 4 = ____ Herb Stratum (Plot size: _____)

1. Cartail Vypha latifolia 90 V OB1 Herb Stratum (Plot size: UPL species _____ x 5 = ____ Column Totals: _____ (A) ____ (B) Prevalence Index = B/A = Hydrophytic Vegetation Indicators: __ 1 - Rapid Test for Hydrophytic Vegetation √2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0¹ · 4 - Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation¹ (Explain) ____ = Total Cover Indicators of hydric soil and wetland hydrology must Woody Vine Stratum (Plot size: _____) be present, unless disturbed or problematic. Hydrophytic Vegetation Present? % Bare Ground in Herb Stratum Remarks: droto 245-246

Great Plains - Version 2.0

				Sampling Point: (/) /
Profile Description: (Desc	cribe to the depth ne	eded to document the indicator or co	nfirm the absence o	f indicators.)
Depth Mat		Redox Features		
(inches) Color (mois	st) % Co	olor (moist) % Type ¹ Loc	<u> Texture</u>	Remarks
2-62/				
/ •				
··········				
		ced Matrix, CS=Covered or Coated San		ion: PL=Pore Lining, M=Matrix.
lydric Soil Indicators: (Ap	oplicable to all LRRs	, unless otherwise noted.)	Indicators fo	r Problematic Hydric Soils³:
Histosol (A1)		Sandy Gleyed Matrix (S4)		ck (A9) (LRR I, J)
Histic Epipedon (A2)		Sandy Redox (S5)	Coast Pra	airie Redox (A16) (LRR F, G, H)
Black Histic (A3)		Stripped Matrix (S6)	Dark Suri	face (S7) (LRR G)
Hydrogen Sulfide (A4)		Loamy Mucky Mineral (F1)	High Plai	ns Depressions (F16)
Stratified Layers (A5) (LI	RR F)	Loamy Gleyed Matrix (F2)	(LRR	H outside of MLRA 72 & 73)
1 cm Muck (A9) (LRR F,		Depleted Matrix (F3)	Reduced	Vertic (F18)
Depleted Below Dark Su	ırface (A11)	Redox Dark Surface (F6)	Red Pare	nt Material (TF2)
Thick Dark Surface (A12)	•	Depleted Dark Surface (F7)	Very Sha	llow Dark Surface (TF12)
_ Sandy Mucky Mineral (S	•	Redox Depressions (F8)		plain in Remarks)
2.5 cm Mucky Peat or Pe		High Plains Depressions (F16)	3Indicators of	hydrophytic vegetation and
5 cm Mucky Peat or Pea	it (S3) (LRR F)	(MLRA 72 & 73 of LRR H)	wetland h	ydrology must be present,
			unless dis	sturbed or problematic.
estrictive Layer (if presen	•			
			ł	•)
Type: 41/6"	4**		•	
			Hydric Soil Pr	esent? Yes / No
Depth (inches):			Hydric Soil Pr	esent? Yes // No
Depth (inches):			Hydric Soil Pr	esent? Yes / No
Depth (inches):			Hydric Soil Pr	esent? Yes // No
Depth (inches):emarks:			Hydric Soil Pr	esent? Yes // No
Depth (inches):emarks: nard pan - Road			Hydric Soil Pr	esent? Yes / No
Depth (inches):emarks: nard pan - Road **DROLOGY	€.1		Hydric Soil Pr	esent? Yes No No
Depth (inches):emarks: nard pan - Road **TOROLOGY** Torology Indicates**	f:			
Depth (inches):emarks: nard pan - Road: DROLOGY etland Hydrology Indicator imary Indicators (minimum	f:		Secondary	Indicators (minimum of two required
Depth (inches):emarks: nard pan - Road **TOROLOGY** Torology Indicates**	f:	k all that apply) Salt Crust (B11)	Secondary	
Depth (inches):emarks: nard pan - Road DROLOGY etland Hydrology Indicatorimary Indicators (minimum)	f:		SecondarySurface	Indicators (minimum of two required
Depth (inches):emarks: nard pan - Road DROLOGY Vetland Hydrology Indicator rimary Indicators (minimum Surface Water (A1)	f:	Salt Crust (B11)	Secondary Surface Sparse	Indicators (minimum of two required e Soil Cracks (B6)
Depth (inches):emarks: PAROLOGY Vetland Hydrology Indicator rimary Indicators (minimum Surface Water (A1) High Water Table (A2)	f:	Salt Crust (B11) Aquatic Invertebrates (B13)	Secondary Surface Sparse Drainag	Indicators (minimum of two required e Soil Cracks (B6) ly Vegetated Concave Surface (B8)
Depth (inches): emarks: nard pan - Road DROLOGY retland Hydrology Indicator rimary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3)	f:	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2)	Secondary Surface Sparse Drainag	Indicators (minimum of two required e Soil Cracks (B6) ly Vegetated Concave Surface (B8) ge Patterns (B10) rd Rhizospheres on Living Roots (C3
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WETLAND DETERMINATION DATA FORM - Great Plains Region

NWI classification:	Slope (%): O Slope (%): O Datum: PEM Yes 1 No. marks.) ortant features, etc.
NWI classification: o, explain in Remarks. cumstances" present? ain any answers in Rer transects, impo	Slope (%): O
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Morphological Adaptat	ions ¹ (Provide supportir
data in Remarks or on	a separate sheet)
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ore of hydric sail and w	vetland hydrology must
ent, unless disturbed o	r problematic.
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	g FAC-): mber of Dominant Across All Strata: of Dominant Species OBL, FACW, or FAC: nce Index worksheet: I % Cover of: cies pecies cies pecies cies revalence Index = B/A hytic Vegetation India Rapid Test for Hydroph Dominance Test is >50 Prevalence Index is <3 Morphological Adaptat data in Remarks or on blematic Hydrophytic V ors of hydric soil and went, unless disturbed or hytic ion

OIL		Sampling Point: <u>/</u> 3
Profile Description: (Describe to the depth r	needed to document the indicator or con-	firm the absence of indicators.)
Depth <u>Matrix</u>	Redox Features	
(inches) Color (moist) %	Color (moist) % Type ¹ Loc ²	
D-21/2 10 YR 3/1 1001		<u> </u>
7-10 10/R 2/1 100		1
10 10. 10. 10. 10. 10. 10. 10. 10. 10. 1		
10+ <u>save</u>		
Type: C=Concentration, D=Depletion, RM=Re	duced Matrix, CS=Covered or Coated Sand	I Grains. ² Location: PL=Pore Lining, M=Matrix.
lydric Soil Indicators: (Applicable to all LRI	Rs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
Histosol (A1)	Sandy Gleyed Matrix (S4)	1 cm Muck (A9) (LRR I, J)
Histic Epipedon (A2)	Sandy Redox (S5)	Coast Prairie Redox (A16) (LRR F, G, H)
/Black Histic (A3)	Stripped Matrix (S6)	Dark Surface (S7) (LRR G)
✓ Hydrogen Sulfide (A4)	Loamy Mucky Mineral (F1)	High Plains Depressions (F16)
Stratified Layers (A5) (LRR F)	Loamy Gleyed Matrix (F2)	(LRR H outside of MLRA 72 & 73)
î cm Muck (A9) (LRR F, G, H)	Depleted Matrix (F3)	Reduced Vertic (F18) Red Parent Material (TF2)
Depleted Below Dark Surface (A11)	Redox Dark Surface (F6) Depleted Dark Surface (F7)	Very Shallow Dark Surface (TF12)
Thick Dark Surface (A12) Sandy Mucky Mineral (S1)	Redox Depressions (F8)	Other (Explain in Remarks)
3.5 cm Mucky Peat or Peat (S2) (LRR G, H		³ Indicators of hydrophytic vegetation and
5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)	wetland hydrology must be present,
0 011 111 001 0 1 1 0 21 (0 5) (2 1 1 1 1)	(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	unless disturbed or problematic.
Restrictive Layer (if present):		
Type:	•	/
Depth (inches):		Hydric Soil Present? Yes V No
Remarks:		
YDROLOGY		
Vetland Hydrology Indicators:	neck all that apply)	Secondary Indicators (minimum of two required
Vetland Hydrology Indicators: Primary Indicators (minimum of one required; ch	,	
Vetland Hydrology Indicators: Primary Indicators (minimum of one required; checking the Control of the Control	Salt Crust (B11)	Surface Soil Cracks (B6)
Vetland Hydrology Indicators: Primary Indicators (minimum of one required; ch Surface Water (A1) High Water Table (A2)	Salt Crust (B11) Aquatic Invertebrates (B13)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8)
Vetland Hydrology Indicators: Primary Indicators (minimum of one required; chulled L Surface Water (A1) L High Water Table (A2) Saturation (A3)	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	Surface Soil Cracks (B6)Sparsely Vegetated Concave Surface (B8)Drainage Patterns (B10)
Vetland Hydrology Indicators: Primary Indicators (minimum of one required; ch Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2)	 Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (Concave)
Vetland Hydrology Indicators: Primary Indicators (minimum of one required; charace Water (A1) High Water Table (A2) Seturation (A3) Water Marks (B1) Sediment Deposits (B2)	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roc	 Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (Cots (C3)
Vetland Hydrology Indicators: Primary Indicators (minimum of one required; character (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roc (where not tilled)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (Cots (C3) (where tilled) Crayfish Burrows (C8)
Vetland Hydrology Indicators: Primary Indicators (minimum of one required; check the control of	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roc (where not tilled) Presence of Reduced Iron (C4)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (Cots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9)
Netland Hydrology Indicators: Primary Indicators (minimum of one required; character (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roc (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (Cits (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
Vetland Hydrology Indicators: Primary Indicators (minimum of one required; check the control of	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roc (where not tilled) Presence of Reduced Iron (C4)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (Conts (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; character water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roc (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (Cits (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
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Netland Hydrology Indicators: Primary Indicators (minimum of one required; check of the control	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roc (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): 3 * Depth (inches): 0 '' W	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) ots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5) Frost-Heave Hummocks (D7) (LRR F)

WETLAND DETERMINATION DATA FORM – Great Plains Region

projection Billings Rumss Johnson	2_0	City/County: <u>Yellon</u>	Sampling Date: 7/3/V
Project/Site: Billings Bypass Johnson Applicant/Owner: MBT			State: M Sampling Point: V-/ with
nvestigator(s): L. Stragis, G. Ran A		Section, Township, Ran	ge: S19 TIN, R27 B
andform (hillslope, terrace, etc.):	(Can	Local relief (concave, c	convex, (none): Slope (%):
Subregion (LRR):	I ot:	20001101101 (201111111)	Long: Datum:
			NWI classification: PFO
Soil Map Unit Name: Are climatic / hydrologic conditions on the site typical for this		N. V.	(If no explain in Remarks)
are climatic / hydrologic conditions on the site typical for this	time of yea	ar? Yes No	(II No. explain III remails.)
re Vegetation, Soil, or Hydrologysi	ignificantly (disturbed? O_0 Are "I	Normal Circumstances present: 1es No
are Vegetation, Soil, or Hydrology n.	aturally pro	blematic? $\mathcal{N}_{\mathcal{O}}$ (If nea	eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map	showing	sampling point lo	ocations, transects, important features, etc.
Hydric Soil Present? Yes No	o	Is the Sampled within a Wetlan	
man made berms/terror,	wetten	w/cathale	1.1/54
excavated deprossion		to W,E 20	
VEGETATION – Use scientific names of plan		,	
		Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)		Species? Status	Number of Dominant Species That Are OBL, FACW, or FAC
1. Passian olive Z. angustifalici	<u> </u>	1710	(excluding FAC-):
2			Total Number of Dominant
3			Species Across All Strata: (B)
Sapling/Shrub Stratum (Plot size:)		= Total Cover	Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
1			Prevalence Index worksheet:
2.			Total % Cover of: Multiply by:
3.			OBL species x1 =
4.			FACW species x 2 =
5.			FAC species x 3 =
		= Total Cover	FACU species x 4 =
Herb Stratum (Plot size:)	11	•	UPL species x 5 =
1. quackarass H. rebans bism-h. bullrush S. mitrocanters	50	JOBL	Column Totals: (A) (B)
3 modstem bullrush Sacutus	20	1 08L	
4. Shown milk used A. speciose			Prevalence Index = B/A =
5. Cinquestial / Polentilla sp.	2.5		Hydrophytic Vegetation Indicators:
6. Low cress, Cardania drabe			1 Rapid Test for Hydrophytic Vegetation
7.			2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.01
8			4 - Morphological Adaptations (Provide supporting
9.			data in Remarks or on a separate sheet)
10			Problematic Hydrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size:)		_= Total Cover	¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1			
2			Hydrophytic Vegetation
AL D. Chrombing Chroming	<u></u>	_ = Total Cover	Present? Yes No No
% Bare Ground in Herb Stratum			
1 voltaino.			

Frome Desc	ription: (Describe	to the dep	oth needed to d	ocum	ent the ir	dicator	or confire	n the absence	of indica	ators.)	
Depth	Matrix				Features						
ز <u>(inches)</u> مر	Color (moist)	_%_	Color (moist	<u>) </u>	%	Туре	Loc ²	Texture		Remar	rks
0-5	3/2/01/8	90	7.5 XIC	4/6	10		_ W	siltyc	layl	crun	
5-76	10 YR 2/1	25%	7,5 YR	476	15	<u> </u>	$_{m}$	_sand	0	. ,	
,	/		, 0 ,	/ "					1		
	1 1 1 1 1 1										
·····											
				 .	 -						
		•									
	•										
Type: C=Co	ncentration, D=Depl	etion. RM=	Reduced Matrix		Covered	or Coate	d Sand Gr	rains ² l or	ation: Pl	.=Pore Lining	n M=Matrix
	ndicators: (Applica						<u> </u>			lematic Hydi	
Histosol (eyed Matr	-				(LRR I, J)	
-	pedon (A2)				dox (S5)	,- ·/				dox (A16) (L	RR F, G, H)
Black His			Stri	pped N	Aatrix (S6	•				7) (LRR G)	, ,,
	Sulfide (A4)			-	icky Mine	, ,				ressions (F16	•
	Layers (A5) (LRR F)				eyed Matr			•		ide of MLRA	1 72 & 73)
	k (A9) (LRR F, G, H Below Dark Surface				Matrix (F3 rk Surface	•			ed Vertic		
	k Surface (A12)	(411)	• `		nk Sunaci Dark Surfa			Red Parent Material (TF2) Very Shallow Dark Surface (TF12)			
•	icky Mineral (S1)	•			pressions			Other (Explain in Remarks)			
2.5 cm Mu	icky Peat or Peat (S	2) (LRR G			s Depres		6)			hytic vegetati	ion and
5 cm Muc	ky Peat or Peat (S3)	(LRR F)		MI RA	70 0 70	of LRR	. 13			y must be pr	
5 Gall Muc	,	(-1111)	1	(111)	112010	OF EIGH	п)	- Citano			000111,
		(211111)		(111)	112010	Of EIGH	n)			or problema	
Restrictive La	yer (if preşent):				1/2 04 /3	Of EIGH	n)			• •	
Restrictive La	yer (if present):		kcobh		1 1 2 0, 1 3		n) 			• •	
Restrictive La	yer (if present):				. 12 0, 13	OF EIGHT	n)		disturbed	or problema	tic.
Restrictive La Type: Depth (inch	es): 6 // cavy					Of EINC	n)	unless	disturbed	or problema	tic.
Restrictive La Type: Depth (inch	yer (if present):					Or LINC	n)	unless	disturbed	or problema	tic.
Restrictive La Type: Depth (inch	es): 6 // cavy			(III her V			n)	unless	disturbed	or problema	tic.
Restrictive La Type: Depth (inch lemarks:	es): 6 " Cavary			(mer v		Of LINE	н)	unless	disturbed	or problema	tic.
Restrictive La Type: Depth (inch Remarks:	es): 6 / Carbried						n)	unless	disturbed	or problema	tic.
testrictive La Type: Depth (inch emarks:	es): 6" Calbried Y cology Indicators:	ROC	kcobh/			OT EINT		unless	disturbed	or problema	tic.
testrictive La Type: Depth (inch emarks:	es): 6 // // // // // // // // // // // // /	ROC	kcobh/	(ylag		Of Election		unless Hydric Soil	disturbed Present?	Yes	tic.
testrictive La Type: Depth (inch emarks: C X (DROLOG /etland Hydra fimary Indicat _ Surface W	es): 6 / / / / / / / / / / / / / / / / / /	ROC	kcobh/ ————————————————————————————————————	pply) ust (B1	11)			Hydric Soil Secondar	disturbed Present?	Yes	tic.
testrictive La Type: Depth (inch emarks: C X (DROLOG retland Hydrimary Indicat Surface W High Wate	es): 6 // // // // // // // // // // // // /	ROC	check all that a	pply) ust (B1	11) tebrates (B13)		Hydric Soil Secondar Surfa	Present? y Indicate the Soil C	Yes	tic.
Type:	yer (if present): (a way) (a) Y cology Indicators: (ors (minimum of one later (A1) r Table (A2) (A3)	ROC	check all that a Salt Cri Aquatic Hydrog	pply) ust (B1 : Invert	11) tebrates (B13) (C1)		Hydric Soil Secondar Surfa Spars	Present? y Indicate ce Soil Cosely Vege	Yes	No
Type:	yer (if present): 6	ROC	check all that a Salt Cri Aquatio Hydrog Dry-Se	pply) ust (B1 : Inverti en Sul	11) tebrates (lfide Odor Vater Tab	B13) (C1) le (C2)		Secondar Surfa Spars Drain Oxidi	Present? y Indicate ace Soil Cosely Vege age Patte	Yes ors (minimum racks (B6) tated Concar	No of two required ve Surface (B8)
Type:	yer (if present): Calbried Y Ology Indicators: ors (minimum of one later (A1) r Table (A2) (A3) ks (B1) Deposits (B2)	ROC	check all that a Salt Cro Aquatic Hydrog Dry-Sei	pply) ust (B1 : Inverti en Sul ason V	11) tebrates (lfide Odor Vater Tab	B13) (C1) le (C2)		Secondar Surfa Spara Drain Oxidi C3) (wt	Present? V Indicate ace Soil Cosely Vege age Patter zed Rhizonere tilled	Yes ors (minimum racks (B6) tated Concar erns (B10) ospheres on I	No of two required ve Surface (B8)
rype:	yer (if present): Carbried	ROC	check all that a Salt Cro Aquatic Hydrog Dry-Sea	pply) ust (Br : Invertien Sul ason V d Rhiz	11) tebrates (lfide Odor Vater Tab cospheres tilled)	B13) (C1) le (C2) on Livin		Secondar Surfa Spars Drain Oxidi C3) (wt	Present? Y Indicate the Soil Casely Vege age Patter zed Rhizonere tilled ish Burror	Yes ors (minimum racks (B6) tated Concav erns (B10) ospheres on I	n of two required ve Surface (B8) Living Roots (C
Type: Depth (inchemarks: CYDROLOG /etland Hydrorimary Indicate Surface W High Wate Saturation Water Mari Sediment I Drift Depose Algal Mat of	yer (if present): Calbred	ROC	check all that a Salt Cro Aquatio Hydrog Dry-Sec Oxidize (wher Presence	pply) ust (Br : Invertien Sul ason V d Rhiz re not	11) tebrates (lfide Odor Vater Tab zospheres tilled) Reduced I	B13) (C1) le (C2) on Livin (O) ron (C4)		Secondar Surfa Spara Drain Oxidi C3) (wt	y Indicate company Present? y Indicate company Vege age Patter tilled in the company vege age tilled in the company veget tilled in the compa	or problema Yes ors (minimum racks (B6) fated Concaverns (B10) ospheres on I	No of two required ve Surface (B8)
Type:	yer (if present): Calbred Y Ology Indicators: ors (minimum of one later (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) its (B5)	ROC	check all that a Salt Cri Aquatic Hydrog Dry-Sei Oxidize (whei Presence Thin Mu	pply) ust (B1 invertien Sul ason V d Rhiz re not ce of F	11) tebrates (lfide Odor Vater Tab cospheres tilled) Reduced I	B13) (C1) le (C2) c on Livin (\ () ron (C4)		Secondar Surfa Spara Drain Oxidi C3) (wt	y Indicate ce Soil C sely Vege age Patte zed Rhize retilled ish Burroration Visitorphic Por	yes ors (minimum racks (B6) tated Concav rns (B10) ospheres on I I) ws (C8) ble on Aerial osition (D2)	n of two required ve Surface (B8) Living Roots (C
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Restrictive La Type: Depth (inch lemarks: C X (/DROLOG /etland Hydre rimary Indicat _ Surface W _ High Wate _ Saturation _ Water Mari _ Sediment I _ Drift Depos _ Algal Mat of _ Iron Depos _ Inundation _ Water-Stail	yer (if present): Calbred	e required:	check all that a Salt Cro Aquatic Hydrog Dry-Sea (wher Presence Thin Mu	pply) ust (Bricen Sulason Vertical Rhizer not cee of Fuck Sularer not cee of Fuck Sularer not cee of Fuck Sularer not sularer not cee of Fuck Sularer	11) tebrates (ifide Odor Water Tab cospheres tilled) Reduced I irface (C7	B13) (C1) le (C2) c on Livin (\ () ron (C4)		Secondar Surfa Spara Drain Oxidi C3) (wt Crayf Satur Geon FAC-	y Indicate ce Soil C sely Vege age Patte zed Rhize ish Burror ation Visit norphic Poly Neutral Te	or problema Yes Ors (minimum racks (B6) tated Concaverns (B10) ospheres on Id) ws (C8) ble on Aerial osition (D2) est (D5)	n of two required ve Surface (B8) Living Roots (C:
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Type:	yer (if present): (a) (b) (es): (a) (b) (es): (b) (a) (b) (es): (c) (a) (b) (es): (d) (es): (es): (es): (f) (f) (f) (f) (f) (f) (f) (f) (f) (f)	e required;	check all that a Salt Cro Aquatic Hydrog Dry-Sea Oxidize (wher Thin Mo	pply) ust (B1 inverten Sul ason V d Rhiz re not ce of F uck Su Explair (inche	11) tebrates (liide Odor Vater Tab cospheres tilled) Reduced I urface (C7 n in Rema	B13) (C1) le (C2) c on Livin (\ () ron (C4)	g Roots (C	Secondar Surfa Spara Drain Oxidi C3) (wt Geon FAC- Frost	Present? Present? y Indicate ace Soil C sely Vege age Patte zed Rhize are tilled ish Burror ation Visi norphic Po Neutral To Heave H	Yes ors (minimum racks (B6) tated Concar rns (B10) ospheres on I I) ws (C8) ble on Aerial osition (D2) est (D5) ummocks (D	n of two required ve Surface (B8) Living Roots (C
Type:	yer (if present): (A) (A) (A) (A) (A) (A) (A) (A) (A) (A)	e required;	check all that a Salt Cru Aquatic Hydrog Dry-Sei Oxidize (wher Present Thin Mo	pply) ust (B1 inverten Sul ason V d Rhiz re not ce of F uck Su Explair (inche	11) tebrates (liide Odor Vater Tab cospheres tilled) Reduced I urface (C7 n in Rema	B13) (C1) le (C2) c on Livin (\ () ron (C4)	g Roots (C	Secondar Surfa Spara Drain Oxidi C3) (wt Crayf Satur Geon FAC-	Present? Present? y Indicate ace Soil C sely Vege age Patte zed Rhize are tilled ish Burror ation Visi norphic Po Neutral To Heave H	Yes ors (minimum racks (B6) tated Concar rns (B10) ospheres on I I) ws (C8) ble on Aerial osition (D2) est (D5) ummocks (D	n of two required ve Surface (B8) Living Roots (C:

WETLAND DETERMINATION DATA FORM - Great Plains Region Johnson 2 city/County: <u>Yellowstone</u> Sampling Date: ______ Project/Site: Silina Bf State: MT Sampling Point: Applicant/Owner: _ M 15T Investigator(s): L. Straais 6, Rand Section, Township, Range: S19, TIN, P27E Landform (hillstope (errace) etc.): __ Local relief (concave, convex, none):) Lat: ______ Subregion (LRR): _ __ NWI classification: <u>uplam</u> of Soil Map Unit Name: ____ Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ____ (If no, explain in Remarks.) Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No _ Are "Normal Circumstances" present? Yes ____ No _ (If needed, explain any answers in Remarks.) Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Is the Sampled Area Yes _____ No ___ Hydric Soil Present? within a Wetland? Wetland Hydrology Present? Remarks: Tomace Gum ROAD bed, occess VEGETATION - Use scientific names of plants. **Dominance Test worksheet:** Absolute Dominant Indicator % Cover Species? Status **Number of Dominant Species** Tree Stratum (Plot size: _____) That Are OBL, FACW, or FAC (excluding FAC-): Total Number of Dominant (B) Species Across All Strata: = Total Cover Percent of Dominant Species _ (A/B) Sapling/Shrub Stratum (Plot size: _____) That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species _____ x 1 = ____ FACW species _____ x 2 = ____ FAC species _____ x 3 = ____ ____ = Total Cover FACU species _____ x 4 = ____ Herb Stratum (Plot size: _ UPL species _____ x 5 = ____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = ____ Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) = Total Cover Indicators of hydric soil and wetland hydrology must Woody Vine Stratum (Plot size: _____) be present, unless disturbed or problematic. Hydrophytic Vegetation = Total Cover Present? % Bare Ground in Herb Stratum _

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Remarks:

		1,0
Sampling	Point:	V

SOIL		Sampling Point:
Profile Description: (Describe to the depth ne		nfirm the absence of indicators.)
Depth (inches) Matrix Color (moist) % C 10 VR 3h 100	Redox Features olor (moist) % Type ¹ Loc	? Texture Remarks SIH 100m
Type: C=Concentration, D=Depletion, RM=Redu		
Hydric Soil Indicators: (Applicable to all LRRs	s, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
Histosol (A1)	Sandy Gleyed Matrix (S4)	1 cm Muck (A9) (LRR I, J)
Histic Epipedon (A2)	Sandy Redox (S5)	Coast Prairie Redox (A16) (LRR F, G, H)
Black Histic (A3)	Stripped Matrix (S6)	Dark Surface (S7) (LRR G)
Hydrogen Sulfide (A4)	Loamy Mucky Mineral (F1)	High Plains Depressions (F16)
Stratified Layers (A5) (LRR F) 1 cm Muck (A9) (LRR F, G, H)	Loamy Gleyed Matrix (F2) Depleted Matrix (F3)	(LRR H outside of MLRA 72 & 73) Reduced Vertic (F18)
Depleted Below Dark Surface (A11)	Redox Dark Surface (F6)	Red Parent Material (TF2)
Thick Dark Surface (A12)	Depleted Dark Surface (F7)	Very Shallow Dark Surface (TF12)
Sandy Mucky Mineral (S1)	Redox Depressions (F8)	Other-(Explain in Remarks)
2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	High Plains Depressions (F16)	³ Indicators of hydrophytic vegetation and
5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)	wetland hydrology must be present,
		unless disturbed or problematic.
Restrictive Layer (if present): Type: hard pan / road (!!) Depth (inches): 4"		Hydric Soil Present? Yes No
Remarks:		A
YDROLOGY Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; che	rk all that anniv)	Secondary Indicators (minimum of two required)
· · · · · · · · · · · · · · · · · · ·		
Surface Water (A1) High Water Table (A2)	Salt Crust (B11)	Surface Soil Cracks (B6)
Saturation (A3)	Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10)
Water Marks (B1)	Dry-Season Water Table (C2)	Oxidized Rhizospheres on Living Roots (C3)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roc	
Drift Deposits (B3)	(where not tilled)	Crayfish Burrows (C8)
Algai Mat or Crust (B4)	Presence of Reduced Iron (C4)	Saturation Visible on Aerial Imagery (C9)
Iron Deposits (B5)	Thin Muck Surface (C7)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	Other (Explain is Nemarca)	Frost-Heave Hummocks (D7) (LRR F)
ield Observations:		i lost-i leave i tallillocto (D7) (ETRT1)
	Donth (inches):	
1	Depth (inches):	
	Depth (inches):	Intland Hudvalami Dissanta Vas Na 1
Saturation Present? Yes No includes capillary fringe) Describe Recorded Data (stream gauge, monitorin		/etland Hydrology Present? Yes No ns), if available:
Remarks:	•	

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Billings Bypass Mary Street city/county: 4ello	WSTONO Sampling Date: 7/12/11
Applicant/Owner: MOT	State: WTT Sampling Point: Ý/
Investigator(s): 1. Stragis 6 Rand Section, Township, Re	ange: SILITIN, P26E
Landform (hillslope, terrace, etc.): Terrace Local relief (concave,	convex, none): 10 re Slope (%): 0-2
Subregion (LRR): 6 Lat:	Long: Datum:
Subregion (LRR):	NWI classification: PS. W
Soil Map Unit Name:	(If no, explain in Remarks.)
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _	"Normal Circumstances" present? (Yes) No
Are Vegetation, Soil, or Hydrology significantly disturbed? N_O Are Are Vegetation, Soil, or Hydrology naturally problematic? N_O (If n	eeded, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sampling point	locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No Is the Sample	
Hydric Soil Present? Yes No within a Wetland Hydrology Present? Yes No within a Wetland	ind? Yes No No No
Wetland Hydrology Present? Yes V No No No No No No No No No No No No No	
Ditch ~ 5 Wide	,
use 2.2 as upland	
VEGETATION – Use scientific names of plants.	
Absolute Dominant Indicator Tree Stratum (Plot size:) % Cover Species? Status	1
1. Cottonwood Populus doltardes 10 V FAC	Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): (A)
3.	Total Number of Dominant Species Across All Strata: (B)
4 = Total Cover Sapling/Shrub Stratum (Plot size:)	Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
1. Onton and P. doltondo 20 V FAC	
2.	Prevalence Index worksheet: Total % Cover of: Multiply by:
3	OBL species x 1 =
4	FACW species x2 =
5	FAC species x 3 =
= Total Cover	FACU species x 4 =
Herb Stratum (Plot size:) 1. 24 mmlar Madre C. Company and ROL V FAC.	UPL species x 5 =
1. Meroly sadge C. lamyunas a 801. V FAC 2. Curley dock R. Orespus 10	Column Totals: (A) (B)
3.	Prevalence Index = B/A =
4.	Hydrophytic Vegetation Indicators:
5.	1 - Rapid Test for Hydrophytic Vegetation
6.	2 - Dominance Test is >50%
7.	3 - Prevalence Index is ≤3.0 ¹
8.	4 - Morphological Adaptations (Provide supporting
9	data in Remarks or on a separate sheet)
10 = Total Cover	Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size:	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1	Hydrophytic
2 = Total Cover	Vegetation
% Bare Ground in Herb Stratum	Present? Yes V. No No
Remarks:	
	N Company of the Comp

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Sampling Point: DP-9-1

SUL	ozarousumana and a management of the same and	Sampling Point:
Profile Description: (Describe to the depth		confirm the absence of indicators.)
Depth Matrix	Redox Features	Loc ² Texture Remarks
(inches) Color (moist) %	Color (moist) . % Type ¹	
D-6" 109R2/2	1011056 715	Clay
6-194-104R4/2 50_	10482/2 45 D _	M clay
	7.59RS/6 5 C /	N
741+ 1085/s	· · · · · · · · · · · · · · · · · · ·	erhorda.
77 6 70 110/2		srryaan
¹Type: C=Concentration, D=Depletion, RM=Re	aduand Matrix CS-Covered or Control S	Cond Crains 2 continue DI = Doro Lining M=Matrix
Hydric Soil Indicators: (Applicable to all LR		Sand Grains. ² Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils ³ :
Histosof (A1)	Sandy Gleyed Matrix (S4)	1 cm Muck (A9) (LRR I, J)
Histic Epipedon (A2)	Sandy Gleyed Matrix (34) Sandy Redox (S5)	Coast Prairie Redox (A16) (LRR F, G, H)
Black Histic (A3)	Stripped Matrix (S6)	Dark Surface (S7) (LRR G)
Hydrogen Sulfide (A4)	Loamy Mucky Mineral (F1)	High Plains Depressions (F16)
Stratified Layers (A5) (LRR F)	Loamy Gleyed Matrix (F2)	(LRR H outside of MLRA 72 & 73)
1 cm Muck (A9) (LRR F, G, H)	Depleted Matrix (F3)	Reduced Vertic (F18)
✓ Depleted Below Dark Surface (A11)	Redox Dark Surface (F6)	Red Parent Material (TF2)
Thick Dark Surface (A12)	Depleted Dark Surface (F7)	Very Shallow Dark Surface (TF12)
Sandy Mucky Mineral (S1)	Redox Depressions (F8)	Other (Explain in Remarks)
2.5 cm Mucky Peat or Peat (S2) (LRR G, F) 5 cm Mucky Peat or Peat (S3) (LRR F)		
5 cm Middky Feat of Feat (55) (ERK F)	(MLRA 72 & 73 of LRR H)	wetland hydrology must be present, unless disturbed or problematic.
Restrictive Layer (if present):		uness disturbed of problematic.
Type:		
Depth (inches):	_	Hydric Soil Present? Yes No
Remarks:		Trydito doi: 103
Tellars.		
		•
YDROLOGY		,
Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; cl	neck all that apply)	Secondary Indicators (minimum of two required)
Surface Water (A1)	Salt Crust (B11)	Surface Soil Cracks (B6)
High Water Table (A2)	Aquatic Invertebrates (B13)	Sparsely Vegetated Concave Surface (B8)
Saturation (A3)	Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)
Water Marks (B1)	Dzy-Season Water Table (C2)	Oxidized Rhizospheres on Living Roots (C3)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living	
Drift Deposits (B3)	(where not tilled)	Crayfish Burrows (C8)
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)	Saturation Visible on Aerial Imagery (C9)
Iron Deposits (B5)	Thin Muck Surface (C7)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	• • • • • • • • • • • • •	Frost-Heave Hummocks (D7) (LRR F)
Field Observations:		
Surface Water Present? Yes No	Depth (inches):	
Vater Table Present? Yes No	Depth (inches):	
•	. /	Wotland Hudralogy Dynamic Von
Saturation Present? Yes No includes capillary fringe)	Depth (inches):	Wetland Hydrology Present? Yes No
Describe Recorded Data (stream gauge, monito	ring well, aerial photos, previous inspec	tions), if available:
Remarks:	1 1 1 1 1 1	T C DA
Berendh	an dith: 1/10	water, no 470w
		11 \ 1 215

WETLAND DETERMINATION DATA FORM – Great Plains Region BILLIMAG BUDASS CITY/County: 40/1045 DAG Sampling Date: 2/ Project/Site: State: MT Sampling Point: DE Applicant/Owner: _ Saccion, Township, Range: 510, TIN, R26E Investigator(s): ___ Local relief (concave, convex mone): Landform (hillslope (errace_ete.): ____ Lat: ______ Long: _____ Datum: Subregion (LRR): NWI classification: Soil Map Unit Name: _____ Are climatic / hydrologic conditions on the site typical for this time of year? Yes ______No _____ (If no, explain in Remarks.) Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Are "Normal Circumstances" present? Yes $\underline{\lor}$ Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Is the Sampled Area; Hydric Soil Present? within a Wetland? Wetland Hydrology Present? Remarks: VEGETATION – Use scientific names of plants. Absolute Dominant Indicator Dominance Test worksheet: % Cover Species? Status Number of Dominant Species 1. Malous /ormental That Are OBL, FACW, or FAC (excluding FAC-): Total Number of Dominant Species Across All Strata: __ = Total Cover Percent of Dominant Species Sapling/Shrub Stratum (Plot size: _____) That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species _____ x 1 = ____ FACW species _____ x 2 = ____ FAC species _____ x 3 = ____ FACU species _____ x4 = ____ Herb Stratum (Plot size: UPL species _____ x 5 = ____ Column Totals: _____ (A) ____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: ____ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0^t · 4 - Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) = Total Cover ¹Indicators of hydric soil and wetland hydrology must Woody Vine Stratum (Plot size: be present, unless disturbed or problematic. Hydrophytic Vegetation = Total Cover Present? % Bare Ground in Herb Stratum ___ Remarks: 11

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(inches) Color (moist) % Color	Redox Features olor (moist) % Type¹ Lo	C ² Texture Remarks
1 37		
Type: C=Concentration, D=Depletion, RM=Redu lydric Soil Indicators: (Applicable to all LRRs		nd Grains. ² Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils³:
Histosol (A1)	Sandy Gleyed Matrix (S4)	1 cm Muck (A9) (LRR I, J)
Histic Epipedon (A2) Black Histic (A3)	Sandy Redox (S5) Stripped Matrix (S6)	Coast Prairie Redox (A16) (LRR F, G, H)Dark Surface (S7) (LRR G)
Hydrogen Sulfide (A4) Stratified Layers (A5) (LRR F) 1 cm Muck (A9) (LRR F, G, H)	Loamy Mucky Mineral (F1) Loamy Gleyed Matrix (F2) Depleted Matrix (F3)	High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73) Reduced Vertic (F18)
Term Muck (A9) (LRR P, G, H) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8) High Plains Depressions (F16)	Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) 3Indicators of hydrophytic vegetation and
5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)	wetland hydrology must be present, unless disturbed or problematic.
Type:	6	Hydric Soil Present? Yes No
Remarks:		
YDROLOGY	•	
Vetland Hydrology Indicators:		
	:k all that apply)	Secondary Indicators (minimum of two required)
	ck all that apply) Salt Crust (B11)	Surface Soil Cracks (B6)
rimary Indicators (minimum of one required; chec	Salt Crust (B11) Aquatic Invertebrates (B13)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8)
Primary Indicators (minimum of one required; chee Surface Water (A1) High Water Table (A2) Saturation (A3)	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10)
Primary Indicators (minimum of one required; chec Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2)	 Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3)
rimary Indicators (minimum of one required; ched Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Ro	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) oots (C3) (where tilled)
Primary Indicators (minimum of one required; ched Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Ro	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8)
Primary Indicators (minimum of one required; ched Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Rowald (Where not tilled) Presence of Reduced Iron (C4)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9)
Primary Indicators (minimum of one required; ched Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Ro (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
rimary Indicators (minimum of one required; ched Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Rowald (Where not tilled) Presence of Reduced Iron (C4)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9)
Primary Indicators (minimum of one required; checomological contents of the co	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Ro (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5)
Primary Indicators (minimum of one required; ched Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes No	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Ro (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5)
High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Field Observations: Surface Water Present? Water Table Present? Yes No	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Ro (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5)
Primary Indicators (minimum of one required; ched Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Field Observations: Surface Water Present? Water Table Present? Ves No Saturation Present? Yes No Saturation Present? Yes No Saturation Present? Yes No Saturation Present? Yes No	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Ro (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) oots (C3) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5) Frost-Heave Hummocks (D7) (LRR F) Wetland Hydrology Present? Yes No
Primary Indicators (minimum of one required; checonomic character (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Field Observations: Surface Water Present? Ves No	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Ro (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) oots (C3) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5) Frost-Heave Hummocks (D7) (LRR F) Wetland Hydrology Present? Yes No

MDT Montana Wetland Assessment Form (revised March 2008)

1. Project Name: <u>Sil</u>	lims B	ue/iSS	···	2. MD1	ſ Projec	t#: <u>56(55)</u>		Control #:	1199		
3. Evaluation Date: Mo.	୍ଚି <u>ଅଟି</u> Day <i>ମ୍ୟ</i>	_Xr:901[4. Evaluator	r(s): <u>从</u>	traa	ऽ S . Wetlaı	nds/Site #(s)	:_P_/	10		
6. Wetland Location(s): i ii. Approx. Stationin	.Legal: T 📗	_(N)or S;	R <u>2 7</u> © or W;	s <u>/সি এ</u>	<u>nel l</u>	; T; T; Or \$	S; R <u>27</u> E o	rw; s	i		
iii. Watershed: /(22700	07	Watershed N	ame, Cou	nty: <u>/</u> /	PPSR USIN	metrice	, Pampe	ys Pillar		
4 Other	ion: ntially affected lands; pre-con lands; post-co	l by MDT struction nstruction	project 9. A see	ssessmen instruction:	t area (/ s on dete	AA): (acres, ermining AA)	_ (measured, (visi (me	e.g. by GPS [i ually estimated asured, e.g. by	f applies])) · GPS [if applies])		
10. Classification of We	tland and Aqu	atic Habi	tats in AA	1 12110	(100	Abbreviations: (C. () ()		
HGM Class (Brinson)	Class (Cowardin)	Modifier (Coward			% of AA	HGM Classes: F	Riverine (R), l	Depressional (I			
.R	ΣM	S,I			201	/ Fringe (LF);		•	·		
Cowardin Classes: Rock Bottom (RB), Unconsolidated bottom (UB), Aquatic Bed (AB), Unconsolidated Shore (US), Moss-lichen Wetland (ML), Emergent Wetland (EM), Scrub-Shrub Wetland (SS), Forested Wetland (FO)											
200	<u> 2M</u>	長工	0 (Modifiers: Excav	rated (E), Imp	ounded (I), Dil	ked (D), Partly		
						Water Regimes:	* *		ı, Seasonal /		
						Intermittent (SI),)		
	Unknown	o determi	Rare	•		Common see instructions for Mo		Abundant)	and aquatic		
Traida	noo rogotalion	ороское	, 1100)	F	redomir	ant conditions adjacen					
Conditions w	vithin AA		Managed in predo is not grazed, hay otherwise converte roads or buildings ANVS cover is ≤18	ed, logged, or ed; does not o ; and noxious	ontain	Land not cultivated, but may grazed or hayed or selectivel has been subject to minor cle few roads or buildings; noxion ANVS cover is ≤30%.	y logged; or) earing; contains	subject to substa clearing, or hydro	r heavily grazed or logged; ntial fill placement, grading, logical alteration; high road y; or noxious weed or ANVS		
AA occurs and is managed in predugrazed, hayed, logged, or otherwise roads or occupied buildings; and no ≤15%.	s converted; does r	ot contain	low disturban	ce		low disturbance		moderate dis	turbance		
AA not cultivated, but may be mode selectively logged; or has been sub clearing, fill placement, or hydrolog roads or buildings; noxious weed or	ject to relatively mi ical alteration; cont ANVS cover is ≤3	nor ains few 0%.	moderate dist	urbance		moderate disturbance		high disturba	nce		
AA cultivated or heavily grazed or lo substantial fill placement, grading, of afteration; high road or building der ANVS cover is >30%.	clearing, or hydrolog nsily; or noxious we	gical sed or	high disturbar			high disturbance		high disturba			
Comments: (types of	disturbance, i	ntensity, s	season, etc.): j	RPigar	lion	dischipercon	in orms	imbonus	ted, +diked,		
li. Prominent noxiou	s, aquatic nui	isance, &	other exotic v	egetation	species	: Canada thi	iste, P.	rezione e	144		
						itat: COMMUN					
13. Structural Diversity: (based on num	ber of "Co	owardin" veget a					1	oove)		
Existing # of "Cowardin"	Vegetated CI	asses in	AA	Initial Rating		s current managemen existence of additiona			Modified Rating		
≥3 (or 2 if	1 is forested) o	lasses		Н	NA			NA	NA		
	f forested) clas			(M)	NA			NA VEO	NA NA		
	ut not a monoc		of total cours	M	<u> </u>	IO		YES→ NA	L NA		
1 class, monoculture (1 sp Comments: DOC 5				SSVOR B	NA Uu-€			INA	11/1		

1

SECTION PERTAINING to FUNCTIONS & VALUES ASSESSMENT

i. AA is Documented Primary or critical I Secondary habitat Incidental habitat (i No usable habitat	l (D) or s nabitat ((l ist sp e	Suspe list sp ecies)	cted (S) ecies)	ed 1 to c	Threate ontain (D S D S D S	circle dicircle Endar	nger sed o	red Plar on defin	its or	Animal: containe	s: d in	instruct	ions):		- -					
ii. Rating (use the con	clusions	from	i above	and	the ma	trix be	low to a	ırrive	at [circ	le] the	e function	nal p	oints a	nd ratir	ig)	~y~				
Highest Habitat Level		do	oc/prima	ary	sus/	priman	y do	c/sec	condary	St	us/secor	ndar	y do	c/incid	lental	s	us/incid	ental	No	ne
Functional Points and			1H			.9H		.8	3M		.7M			.31			.11	-		ĎĹ)
14B. Habitat for plant of AA is Documented Primary or critical h Secondary habitat (Incidental habitat (INo usable habitat ii. Rating (use the concentration)	or anima (D) or S abitat (I (list specist spec	als rat Suspectist species) Scies)	red S1, sted (S) ecies)	S2, c to co	or \$3 b ontain (D S D S S	y the fi	one bas	ed o	n defini	tions o	containe	d in	instruct	ions):		s list	led in 14	A abo	/e)	
Highest Habitat Level			c/primar			primar			econda	ĺ	sus/seco				idental	Т	sus/inc	idontol	T	
S1 Species:		1 40		J	303/	pramar	, , ,			y	5U3/3CC	JIIQ	Y	iochiic	identai		Sus/iric	identai	- IN	lone
Functional Points and I	Rating		1H			.8H 		_ (.7M)		.61	VI			2L			1L		0L
S2 and S3 Species: Functional Points and I Sources for documented			.9Н			.7M			.6M		.51	M		,:	2L		•	1L		0L
14C. General Wildlife H. Evidence of overall was abundant wildlife sign presence of extreme interviews with local moderate (based on any observations of scat common occurrence adequate adjacent unterviews with local iii. Wildlife habitat feature for class cover to be concercent composition of the seasonal/intermittent; T/E Structural diversity (see	wildlife in any of the many of the left limit biologis of the left limit biologis of the left limit biologis of the left limit	use in the following follo	the AA wing [cf #s or high at, tracks bitat feat h knowle ng [chea groups c n such hurces h knowle rom top y distrib)). Abbr	neck gh sp s, ne tures edge ck]): or ind as so to b uted revia eral;	p): Decies the set structure of the set of	diversition diversity aliable AA sor recks, ne AA circle acost and resurfa	ty (during game to in the statively statively statively appropried least page 1	ng ar rails, surro few few tures	ny perio, etc. bunding species s, game	d) area durin trails, outes i getate are as	Minin fe litt sp ini ng peak p , etc.	nal w or tile to parse tervi	(based no wild no wild no wild no no wild no adjace ews with das	on any life ob dlife sig ent upla h local rating within nanen	servation and foor biologic Struct 20% of	d so sts v	diversit	eak us wledge	of the	AA
#13)	ļ		···	Hiç	gh							Mod	erate	<u> </u>				Lov	٧	
Class cover distribution (all vegetated classes)	,	Eve	n			Unev	eņ			Eve	en)			Unev	en	,		Eve	n	
Duration of surface vater in ≥ 10% of AA	P/P	S/I	T/E	A	P/P	S/I	T/E	Α	(P/P)	S/I	T/E	Α	P/P	S/I	T/E	Α	P/P	S/I	T/E	A
.ow disturbance at AA see #12i)	E	E	E	Н	E	E	Н	Н	E	Н	Н	М	E	Н	М	М	E	н	М	М
Moderate disturbance at AA (see #12i)	Н	Н	Н	н	Н	Н	Н	М	Н	Н	М	м	Н	М	M	L	Н	М	L	L
High disturbance at AA see #12i)	М	М	М	L	М	М	L	L	(M)	М	L	L	M	L	L	L	L	L	L	L

Evidence of wildlife use (i)	s from i and ii above and the matrix below to arrive at [circle] the functional points and rating) Wildlife habitat features rating (ii)										
	Exceptional	High	Moderate)	Low							
Substantial	1E	.9H	,8Н	.7M							
Moderate)	.9H	.7M	((5)y)	.3L							
Minimal	.6M	.4M	,ŽL	.1L							

14D. General Fish Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" such that the AA could be used by fish [i.e., fish use is precluded by perched culvert or other barrier, etc.]. If the AA is not used by fish, fish use is not restorable due to habitat constraints, or is not desired from a management perspective [such as fish entrapped in a canal], then circle NA here and proceed to 14E.) Type of Fishery: Cold Water (CW)____ Warm Water (WW)___ Use the CW or WW guidelines in the user manual to complete the matrix Habitat Quality and Known / Suspected Fish Species in AA (use matrix to arrive at [circle] the functional points and rating) Duration of surface Temporary / Ephemeral Seasonal / Intermittent Permanent / Perennial water in AA Aquatic hiding / resting / Adequate Poor Optimal Adequate Poor Adequate Poor Optimal Optimal escape cover Thermal cover optimal / S 0 S 0 S 0 0 S S 0 S 0 S 0 S 0 S suboptimal .3L .6M .5M .4M .3L .7M .4M .7M .6M .5M .9H .8H .7M .6M 5M .9H .8H 1F FWP Tier I fish species .3L .2L .2L **FWP Tier II or Native** .4M .6M .5M .4M .5M .5M .8H .7M .6M .5M .4M H8. 6M .9H .7M Game fish species **FWP Tier III or** 31 21 .2L .1L .3L .5M .4M .4M .4M .6M .5M .5M .5M .4M .7M .8H .7M .6M Introduced Game fish .1L .2L .1L .1L **FWP Non-Game Tier IV** .2L 2L .2L .3L 31 .4M 31 .4M .4M .4M .5M 4M .5M 5M or No fish species Sources used for identifying fish sp. potentially found in AA: ii. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1) a) Is fish use of the AA significantly reduced by a culvert, dike, or other man-made structure or activity or is the waterbody included on the current final MDEQ list of waterbodies in need of TMDL development with listed "Probable Impaired Uses" including cold or warm water fishery or aquatic life support, or do aquatic nuisance plant or animal species (see Appendix E) occur in fish habitat? YN If yes, reduce score in i above by b) Does the AA contain a documented spawning area or other critical habitat feature (i.e., sanctuary pool, upwelling area, etc.- specify in comments) for native fish or introduced game fish? Y N If yes, add 0.1 to the adjusted score in i or iia above: comments: carp in ditch spauning activity iii. Final Score and Rating: 1 14E. Flood Attenuation: (Applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, circle NA here and proceed to 14F.) i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating) Entrenched-A, F, G stream Moderately entrenched -Slightly entrenched - C, types B stream type D. E stream types Estimated or Calculated Entrenchment (Rosgen 1994, 1996) <25% 25-75% <25% 25-75% 25-75% <25% 75% % of flooded wetland classified as forested and/or scrub/shrub .2L .3L .4M .7M .6M .8H 1H .9H AA contains no outlet or restricted outlet .3L .6M .4M .9H H8. .5M .7M AA contains unrestricted outlet Entrenchment ratio (ER) estimation - see User's Manual for additional guidance. Entrenchment ratio = (flood-prone width)/(bankfull width) Flood-prone width = estimated horizontal projection of where 2 x maximum bankfull depth elevation intersects the floodplain on each side of the stream. Flood-prone Width 2 x Bankfull Depth Bankfull Width Entrenchment ratio Flood-prone Bankfull width (ER) Bankfull Depth width Entrenched **Moderately Entrenched** Slightly Entrenched ER = 1.0 - 1.4ER = 1.41 - 2.2 ER = >2.2 F stream type G stream type A stream type B stream type E stream type C stream type D stream type ii. Are ≥10 acres of wetland in the AA subject to flooding AND are man-made features which may be significantly damaged by floods located within 0.5 mile downstream of the AA (circle)? Y N. Comments:

14F. Short and Long Term Surface Water Storage: (Applies to wetlands that flood or pond from overbank or in-channel flow, precipitation, upland surface flow, or groundwater flow. If no wetlands in the AA are subject to flooding or ponding, circle NA pere and proceed to 14G.)

i. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; and T/E = temporary/ephemeral [see instructions for further definitions

of these terms].) Estimated maximum acre feet of water contained in wetlands within the AA that are subject to periodic flooding or ponding	;	5 acre fee	et	1.1	to 5 acre	feet	≤1 acre foot			
Duration of surface water at wetlands within the AA	P/P	S/I	T/E	P/P	S/I	T/E	P/P	S/I	T/E	
Wetlands in AA flood or pond ≥ 5 out of 10 years	1H	.9H	.8H	.8H	.6M	.5M	.4M	.3L	.2L	
Wetlands in AA flood or pond < 5 out of 10 years	.9H	.8H	.7M	.7M	.5M	.4M	.3L	.2L	1 .1L	

14G. Sediment/Nutrient/Toxicant Retention and Removal: (Applies to wellands with potential to receive sediments, nutrients, or toxicants through influx of surface or ground water or direct input. If no wellands in the AA are subject to such input, circle/NA here and proceed to 14H.)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low]) Sediment, nutrient, and toxicant Waterbody on MDEQ list of waterbodies in need of input levels within AA TMDL development for "probable causes" related to AA receives or surrounding land use with potential to sediment, nutrients, or toxicants or AA receives or deliver levels of sediments, nutrients, or compounds surrounding land use with potential to deliver high levels at levels such that other functions are not of sediments, nutrients, or compounds such that other substantially impaired. Minor sedimentation, sources functions are substantially impaired. Major of nutrients or toxicants, or signs of eutrophication sedimentation, sources of nutrients or toxicants, or signs present. of eutrophication present. % cover of wetland vegetation in AA ≥ 70% Evidence of flooding / ponding in AA Yes No Yes No Yes Nα Yes No AA contains no or restricted outlet 1H .8H .7M .5M .5M .4M .3ί .2L AA contains unrestricted outlet .9H .7M 6M .4M 4M .3L .2Ĺ .1L Comments:

14H Sediment/Shoreline Stabilization: (Applies only if AA occurs on or within the banks or a river, stream, or other natural or man-made drainage, or on the shoreline of a standing water body which is subject to wave action. If 14H does not apply, circle **NA** here and proceed to 14L)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)

% Cover of wetland streambank or	**	n of surface water adjacent to rooted ve	getation
shoreline by species with stability ratings of ≥6 (see Appendix F).	Permanent / Perennial	Seasonal / Intermittent	Temporary / Ephemeral
≥ 65%	1 <u>H</u>	.9Н	.7M
(35-64%)	(.7M)	.6M	.5M
< 35%	,3L	2)	11

Comments: Cattail + Russian Mue

14I. Production Export/Food Chain Support:

Other:

i. Level of Biological Activity (synthesis of wildlife and fish habitat ratings [circle])

General Fish Habitat	General Wildlife Habitat Rating (14C.iii.)							
Rating (14D.iii.)	E/H	M	L.					
E/H	Н	Н	М					
M	Н	M	М					
L	M	M.,	L					
N/A	Н	(M)						

ii. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Factor A = acreage of vegetated wetland component in the AA; Factor B = level of biological activity rating from above (14I.i.); Factor C = whether or not the AA contains a surface or subsurface outlet; the final three rows pertain to duration of surface water in the AA, where P/P, S/I, and T/E are as previously defined, and A = "absent" [see instructions for further definitions of these terms].)

Α		Vegeta	ted com	ponent >	5 acres	3	Vegetated component 1-5 acres						Vegetated component <1 acre>						
В	Hi	gh	Mod	erate	L	.ow	Hi	gh	Mod	erate	Lo)W	Hi	gh	Mod	erate)	Lo	ow	
Ç	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	(Yes≻	No	Yes	No	
P/P	1H	.7M	.8H	.5M	.6M	.4M	.9H	.6M	.7M	.4M	.5M	.3L	.8H	.6M	(.6M)	.4M	.3L.	.2L	
S/I	.9H	.6M	.7M	.4M	.5M	.3L	.8H	.5M	.6M	.3L	.4M	.2L	.7M	.5M	.5M	.3L	.3L.	.2L.	
T/E/	.8H	.5M	.6M	.3L	.4M	.2L	.7M	.4M	.5M	.2L	.3L	.1L	.6M	.4M	.4M	.2L	.2L	.1L	

iii. Modified Rating (NOTE: Modified score cannot exceed 1 or be 15% noxious weed or ANVS cover, and that is not subjected to period a) Is there an average ≥ 50 foot-wide vegetated upland buffer around above and adjust rating accordingly:	
Iv. Final Score and Rating: Comments:	Suffer onea-mowed hayfield
14J. Groundwater Discharge/Recharge: (check the appropriate ind	icators in i & ii below)
i. Discharge indicators The AA is a slope wetland	Recharge Indicators Permeable substrate present without underlying impeding layer
Springs or seeps are known or observed	Wetland contains inlet but no outlet
Vegetation growing during dormant season/drought	Stream is a known 'losing' stream; discharge volume decreases
Wetland occurs at the toe of a natural slope	Other:
Seeps are present at the wetland edge	The state of the s
AA permanently flooded during drought periods	controlled irrigation supply / waste allo
Wetland contains an outlet, but no inlet	controlled irrigation supply / waste dita seep out of ditch visible
Shallow water table and the site is saturated to the surface	and the same of

iii. Rating (use the information from I and II above and the table below to arrive at [circle] the functional points and rating) Duration of saturation at AA Wetlands FROM GROUNDWATER DISCHARGE OR WITH WATER THAT IS RECHARGING THE <u>GROUNDWATER</u> SYSTEM Criteria .1L .4M 1H Groundwater Discharge or Recharge N/A Insufficient Data/Information comments: discharge apparent, but recharge 14K. Uniqueness: i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating) AA does not contain previously cited AA does not contain previously rare types and structural diversity AA contains fen, bog, warm springs cited rare types or associations (#13) is high or contains plant or mature (>80 yr-old) forested and structural diversity (#13) is Replacement potential association listed as "S2" by the wetland or plant association listed low-moderate MTNHP as "S1" by the MTNHP common abundant abundant rare abundant common rare common Estimated relative abundance (#11) rare .3L .4M .5M .6M .5M H8. 8H 1H .9H Low disturbance at AA (#12i) 21 3L .4M 4M .7M .5M 7M .9H H8. Moderate disturbance at AA (#12i) (11) .2L .3L .3L .4M .6M .6M .7M High disturbance at AA (#12i) H8. Comments: 14L. Recreation/Education Potential: (affords "bonus" points if AA provides recreation or education opportunity) i. Is the AA a known or potential rec./ed. site: (circle) Y(N) (if 'Yes' continue with the evaluation; if 'No' then circle NA here and proceed to the overall summary and rating page) _ Educational/scientific study; ___ Consumptive rec.; ___ Non-consumptive rec.; ___Other ii. Check categories that apply to the AA: iii. Rating (use the matrix below to arrive at [circle] the functional points and rating) Potential Known Known or Potential Recreation or Education Area 2H .15H Public ownership or public easement with general public access (no permission required) 15H .1M Private ownership with general public access (no permission required) Private or public ownership without general public access, or requiring permission for public access 05L 1M Comments: **General Site Notes** 12011. - aw sous shrub + feed ellow stone Wellowd Soffic MINS TORKO

FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #(S): Pand AC.

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: (Actual Points x Estimated AA Acreage)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	1	0	4 ,		
B. MT Natural Heritage Program Species Habitat	M		1.,		Ø
C. General Wildlife Habitat	m	, 5	1		**
D. General Fish Habitat			NΑ		
E. Flood Attenuation	2	. 2			
F. Short and Long Term Surface Water Storage			ΝΆ		
G. Sediment/Nutrient/Toxicant Removal			NA		
H. Sediment/Shoreline Stabilization	m	, 7			4
Production Export/Food Chain Support	m	6	1.		A
J. Groundwater Discharge/Recharge		,	NA		14 Jili 🔏 Sea comme
K. Uniqueness	1		1		
L. Recreation/Education Potential (bonus points)			NA		
Totals:		2.8	7		
Percent of Possible Score		nonecontribution and a second	40 %		P

Category I Wetland: (must satisfy one of the following criteria; otherwise go to Category II) Score of 1 functional point for Listed/Proposed Threatened or Endangered Species; or Score of 1 functional point for Uniqueness; or Score of 1 functional point for Flood Attenuation and answer to Question 14E.ii.is "yes"; or Rercent of possible score > 80% (round to nearest whole #).
Category II Wetland: (Criteria for Category I not satisfied and meets any one of the following criteria; otherwise go to Category IV) Score of 1 functional point for MT Natural Heritage Program Species Habitat; or Score of .9 or 1 functional point for General Wildlife Habitat; or Score of .9 or 1 functional point for General Fish Habitat; or "High" to "Exceptional" ratings for both General Wildlife Habitat and General Fish/Aquatic Habitat; or Score of .9 functional point for Uniqueness; or Percent of possible score > 65% (round to nearest whole #).
Category III Wetland: (Criteria for Categories I, II, or IV not satisfied)
Category IV Wetland: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; otherwise go to Category III) "Low" rating for Uniqueness; and Vegetated wetland component < 1 acre (do not include upland vegetated buffer); and Percent of possible score < 35% (round to nearest whole #).

OVERALL ANALYSIS AREA RATING: (circle appropriate category based on the criteria outlined above)

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IV

MIDT Montana Wotland Accessment Form (revised March 2008)

						FORM (FEVISEU I			<i>h</i> > <i>t</i>
1. Project Name: 3. Evaluation Date: Mo. (<u>illings</u>	Bu	<u> </u>	2. MDT	Projec	:#: <u>56(55</u>)	<u> </u>	Control #:	4199_
3. Evaluation Date: Mo	<u>09</u> Day <u>63</u>	_Yr. <u>20</u> 1	[] 4. Evaluator	r(s): <u></u>	2400	<u>a i ⊆</u> 5 . Wetlar	nds/Site #(s):	<u>AF, A</u>	Coy
6. Wetland Location(s): i ii. Approx. Stationin	i. Legal: T <u>_,1_</u>	(N)or S; I	<u>₹. [7] (6</u> or W;	s_7		; T N or S	S; R E o	r W; S	· ·
iii. Watershed: 🔟	20700	07	Watershed N	ame, Cour	nty:	Propostore C	15 m.o.:	Pamper	's Filler
7. a. Evaluating Agency: b. Purpose of Evaluat 1. Wetlands pote 2. Mitigation wet 3. Mitigation wet 4. Other	ion: entially affected tlands; pre-con tlands; post-col	by MDT particular by MDT parti	.*			acres) (<u>' 5' acrea</u> AA): (acres, <u>('</u> ermining AA)	_ (measured,	e.g. by GPS [i	applies])
10. Classification of We	tland and Aqu	atic Habi	tats in AA			Abbroviotions:	ann manual f	or definitions\	
HGM Class (Brinson)	Class (Cowardin)	Modifier (Coward		3	% of AA	HGM Classes: F	Riverine (R), [Depressional (l	
S	2 m		11		60	Cowardin Classe bottom (UB), Aqu	atic Bed (AB)), Unconsolida	ted Shore (US),
	SS EO		11	/	<u>30</u> val	Moss-lichen Wetl Shrub Wetland (S	SS), Forested	Wetland (FO)	
	<u> </u>					Drained (PD), Far	rmed (F), Arti	ficial (A)	7 .
***************************************						Water Regimes: Intermittent (SI),			
11. Estimated relative ab	undance: (of s	imilarly cl	assified sites w	ithin the sa	me Maj	or Montana Watershed	Basin, see d		
(Circle one)	Unknown		Rare)		Common		Abundant	
	AA: matrix below t nce vegetation			opriate resp	ponse –	see instructions for Mo	ntana-listed r	noxious weed a	and aquatic
Tiuisa	ilice vegetation	species (A1110/ 11313/	Р	redomir	nant conditions adjacen			
Conditions v	vithin AA		Managed in predo is not grazed, hay otherwise converte roads or buildings ANVS cover is ≤1	ed, logged, or ed; does not co ; and noxious v	ontain	Land not cultivated, but may grazed or hayed or selectivel has been subject to minor cle few roads or buildings; noxion ANVS cover is \$30%.	y logged; or) saring; contains	subject to substa clearing, or hydro	r heavily grazed or logged; ntial fill placement, grading, slogical exteration; high road y; or noxious weed or ANVS
AA occurs and is managed in pred grazed, hayed, logged, or otherwise roads or occupied buildings; and no £45%	e converted; does n	ot contain	low disturban			low disturbance	,	moderate dis	sturbance
AA-not cultivated, but may be mode selectively logged; or has been sub clearing, fill placement, or hydrolog roads or buildings; noxious weed or	oject to relatively mir ical alteration; conte	nor ains few	moderate dist	turbance		moderate disturbance		high disturba	ince
AA cuitivated or heavily grazed or k substantial fill placement, grading, atteration; high road or building de	ogged; subject to re clearing, or hydrolog nsity; or noxious we	latively gical ed or	high disturbar			high disturbance		high disturba	
Comments: (types of	f disturbance, i	ntensity, s	season, etc.): 🔏	DOYIOUS	(c. 90)	ed= 2/5%.	Roads	east m	some roods
ii. Prominent noxiou	ıs, aquatic nui	sance, &	other exotic v	regetation	species	: Canada this	Mar. tour	de accordingly	AA i a rowel po
iii. Provide brief des	criptive sumn	nary of A	A and surroun	ding land (use/hat	oltat: Yellows t	was bit	je i Kuletov	a loto in metion
13. Structural Diversity:	(based on num	ber of "Co	wardin" veget	E					bove)
Existing # of "Cowardin"	Venetated CI	assae in	ΔΑ	initial Rating	į į	s current managemen existence of additiona	t preventing Il vegetated ((passive) classes?	Modified Rating
	1 is forested) of			(H)	NA			NA	(NA)
2 (or 1	if forested) clas	ses		M	NA			NA VEO	NA .
1 class, b	ut not a monoc	zulture	····	M	4—>	10		YES→	L.

NA

1 class, monoculture (1 species comprises ≥90% of total cover) Comments:

NA

SECTION PERTAINING to FUNCTIONS & VALUES ASSESSMENT

Secondary habitat Incidental habitat No usable habitat	habitat (I t (list spe (list spec	ist sp ecies)	ecles)),10 C	contain D S D S D S	(circle		ised o	n defin	itions	C - de	ed in			alic	<u>-</u>				
ii. Rating (use the cor	nclusions	from	i above	and	the ma	atrix be	low to	arrive	at [circ	le] the	e functio	nal p	oints a	ınd ratii	ng)	· .			· •	
Highest Habitat Level	<u> </u>	do	oc/prim	ary	sus/	primar)	y dζ	c/sec	ondary	s	us/seco	ndan	/ d	oc/incle	dental	S	sus/incid	lental	No	ne
Functional Points and Sources for documente		g. obs	1H servatio	ns, r	ecords	.9H .etc):		8.	ВМ		.7M			.3	L		1	<u>L</u>	C	i <u>L</u>
14B. Habitat for plant of the interest of the	f (D) or Si habitat (li (list spec list speci	uspec st spe cies) ies)	cted (S) ecies)	to c	ontain (© S O S S S	circle c	one bas Sald Perc	sed or ea each	n defini gle (gle <u>(</u>	tions of	containe	d in i	nstruc Naso - Vaz	tions);	,Batz		ted in14	IA abov	e)	
Highest Habitat Level		Januar .	c/prima		\mathcal{A}	/primar		"	conda	7						T		:	Ι,	
S1 Species:		1	Abilitia		Susi	himai	y	Jourse	conua	*	sus/sec	onua	<u>'Y</u>	doc/inc	idental	-	sus/inc	adental	I N	one
Functional Points and	Rating		1H			.8H			7XI		.6	Vi			2L			1L		0L
S2 and S3 Species: Functional Points and	Rating	(.9H)		.7M	,	1.	.6M		.5i	M		*	2L			1L		0L
Substantial (based on a observations of abu	any of the	e follo				*****	i, illoue	erate.	or low	based	i on supp	ontir	ıg evid	ence):	,					
presence of extreme interviews with local Moderate (based on any observations of scale common occurrence adequate adjacent interviews with local ii. Wildlife habitat feature. For class cover to be conpercent composition of the	ely limitin I biologist y of the fo ttered will e of wildli upland for I biologist res (Work asidered e ne AA (se	as sca ig hab ig hab ollowin dlife g fe sign od so is with king fr evenly ie #10	#s or his it, track itat fea h knowle ng [che groups on such urces h knowle rom top / distrib)). Abbi	gh s s, ne tures edge ck]): or inc as s edge to b uted revia	pecies of structure of the dividual cat, trace of the ottom, , the mutions for	diversitictures, railable AA is or reicks, necks,	ly (during game in the latively st structure)	ng an trails, surro few s ctures fiate A preva er dui	y perior etc. unding species, game	durin trails, putes a	fe liti sp in g peak p _ etc. in matrix ed class s follows	nal (w or lie to parse tervice tervice tervice to a	based no will adjacews will ds	on any dife ob dife sig ent upla th local trating within	servation and food biologic Struct 20% of	d so sts v	with kno	eak use	of the	A A
presence of extreme interviews with local Moderate (based on any observations of scale common occurrence adequate adjacent interviews with local ii. Wildlife habitat feature For class cover to be con	ely limitin I biologist y of the fo ttered will e of wildli upland for I biologist res (Work asidered e ne AA (se	as sca ig hab ig hab ollowin dlife g fe sign od so is with king fr evenly ie #10	#s or his it, track itat fea h knowle ng [che groups on such urces h knowle rom top / distrib)). Abbi	gh s s, ne tures edge ck]): or inc as s edge to b uted revia	pecies of structure of the dividual cat, trace of the ottom, , the mutions for and A =	diversitictures, railable AA is or reicks, necks, necks, necks, necks, and circle a cost and or surfa	ly (during game in the latively st structure)	ng an trails, surro few s ctures fiate A preva er dui	y perior etc. unding species, game	durin trails, putes a	Minin fe lit st st in g peak p , etc. in matrix ed class s follows ther defi	nal (w or lie to parse tervice tervice tervice to a	based no wild no wild adjace ws wild ds rrive a rrive a ust be e per ns of the	on any dife ob dife sig ent upla th local trating within	servation and food biologic Struct 20% of	d so sts v	during p urces with kno diversi	eak use	of the m #13.	A A
interviews with local Moderate (based on any observations of scale common occurrence adequate adjacent uniterviews with local interviews with local inter	ely limitin I biologist y of the fo ttered will e of wildli upland for I biologist res (Work asidered e ne AA (se	as sca ig hab ig hab ollowin dlife g fe sign od so is with king fr evenly ie #10	#s or high the track of the tra	gh s s, ne tures edge ck!): or inc as s edge to b uted revia	pecies of structure of the dividual cat, trace of the ottom, , the mutions for and A =	diversit ctures, railable AA is or rei cks, ne AA circle a ost and or surfa = abser	ly (during game in the latively st structure in the latively st structure in the latively in t	ng an trails, surro few s ctures fiate A preva er dui	y perior etc. unding species, game	durin durin trails outes getate are as	Minin fet litt sp in g peak p , etc. in matrix ed class s follows ther defi	mal (w or or or or or or or or or or or or or	based no wild no wild adjace ws wild ds rrive a rrive a ust be e per ns of the	on any dife ob dife sig ent uple th local trating within manent	servation and food biologis Struct 20% of b/perenr	d so sts v	during p urces with kno diversi	eak use whedge ty is from in terms	of the	AA
interviews with local Moderate (based on any observations of scale common occurrence adequate adjacent uniterviews with local iii. Witdlife habitat features For class cover to be compercent composition of the seasonal/intermittent; T/E Structural diversity (see #13) Class cover distribution (all vegetated classes) Duration of surface	ely limitin I biologist y of the fo ttered will e of wildli upland for I biologist res (Work asidered e ne AA (se	as sca ig hab ts with ollowind dlife g fe sign od so ts with king fr evenly e #10 orary/e	#s or high the track of the tra	gh s s, ne tures edge ck!): or inc as s edge to b uted revia	pecies est structure of the dividual cat, trace of the ottom, the motions for and A sign	diversitictures, railable AA is or reicks, necks, necks, necks, necks, and circle a cost and or surfa	ly (during game in the latively st structure in the latively st structure in the latively in t	ng an trails, surro few s ctures fiate A preva er dui	y perior etc. unding species, game	durin trails, putes a	Minin fet litt sp in g peak p , etc. in matrix ed class s follows ther defi	mal (w or or or or or or or or or or or or or	based no wild no wild adjace ws wild ds rrive a rrive a ust be e per ns of the	on any dife ob dife sig ent upla th local trating within	servation and food biologis Struct 20% of b/perenr	d so sts v	during p urces with kno diversit h other S/I =	eak use wledge wledge	of the	AA
interviews with local Moderate (based on any observations of scale common occurrence adequate adjacent uniterviews with local interviews with local inte	ely limitin I biologist y of the fot ttered wildi e of wildli upland for I biologist res (Wort sidered e ne AA (se = tempo	as sca ig hab is with ollowindlife g fe sign od so is with king frevenly e #10 orary/e	#s or hist, track- bitat feath knowling [che- groups on such urces in knowle rom top y distrib b). Abbrepheme	gh s, ne s, ne tures edge ck]): cor incas s edge to b uted revia eral;	pecies est structure of the dividual cat, trace of the ottom, the motions for and A sign	diversition diversity clures, railable AA Is or recks, necks, ne	ly (during game in the latively st structure properties to wat not [see	ng an trails, surro	y perior etc. unding species s, game AA attrit lent verations actions	durin trails, outes are as for fur	Minin fill sp in g peak p etc. in matrix ed class s follows ther defi	mal (w or lie to barse tervice to a ces m : P/F nition Mode	based no wild adjace ews wild ds rrive a ust be e per ns of the	on any dife ob dife sig ent uple th local trating within manent nese te	servation and food biologis Struct 20% of t/perenr ms])	ural eachial;	during purces with kno diversith other S/I =	whedge ty is from Low Ever	of the	AA iir
interviews with local Moderate (based on any observations of scal common occurrence adequate adjacent uniterviews with local interviews with local interv	ely limitin I biologist y of the fot ttered wildi e of wildli upland for I biologist res (Wort sidered e ne AA (se = tempo	as sca g hab ts with ollowin dlife c fe sig ood so ss with king fr evenly e #10 orary/e	#s or hist, track it at fea h knowledge for history of the groups of the	gh s s, ne tures edge ck]): or incas s edge to b uted reviaeral;	pecies est structure of the dividual cat, trace of the ottom, the motions for and A sight	diversition diversition diversition diversity and diversit	ly (during game in the latively st structure properties to the latively st structure properties to the latively st structure properties to the latively structure properties to the lative propert	ng an trails, surro	y perior etc. unding species, game	durin trails, butes are as for fur	Minin fill sp in g peak p etc. in matrix ed class s follows ther defi	mal (w or tile to operate the control of the contr	based no wild no wild adjace ews wild ds rrive a ust be e per ns of the erate	on any diffe ob diffe sigent uplet the local trating within manent nese te	servation and food biologis Struct 20% of t/perenr rms]) en	ural eachial;	during p urces with kno diversit h other S/I =	eak use whedge ty is from in terms Low	of the	AA iir

iii. Rating (use the conclusions from i and il above and the matrix below to arrive at [circle] the functional points and rating)

Exceptional

1E

.9H

.6M

Wildlife habitat features rating (li)

Moderate

.8H

.5M

.2L

(High)

/.9H\

7M

.4M

Minimal Comments:

Substantial

Moderate

Evidence of wildlife use (i)

Low

.7M

.3L

.1L

14D. General Fish Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" such that the AA could be used by fish [i.e., fish use is precluded by perched culvert or other barrier, etc.]. If the AA is not used by fish, fish use is not restorable due to habitat constraints, or is not desired from a management perspective [such as fish entrapped in a canal], then circle NA here and proceed to 14E.) Warm Water (WW)____ Use the CW or WW guidelines in the user manual to complete the matrix Type of Fishery: Cold Water (CW)_ \ / Habitat Quality and Known / Suspected Fish Species in AA (use matrix to arrive at [circle] the functional points and rating) Duration of surface Temporary / Ephemeral Seasonal / Intermittent Permanent / Perennial water in AA Adequate Poor Aquatic hiding / resting / Optimal Optimal Poor Adequate Optimal Adequate Poor escape cover Thermal cover optimal / S 0 S 0 S 0 S 0 0 S S 0 S 0 S 0 S 0 suboptimal .4M .3L .3L .6M .7M .6M 5M .5M 4M .7M .9H **18H** .7M 6M .5M .9H H8. 1E FWP Tier I fish species **FWP Tier II or Native** .2L 2L .6M 5M .4M 31 .4M .4M 7M .6M .5M .8H .8H .7M .6M .5M .5M Game fish species FWP Tier III or .1L 5M 4M .3L .2L 21 .4M 31 .6M .5M .4M 6M .5M .5M .4M .7M .8H .7M Introduced Game fish **FWP Non-Game Tier IV** .1L .21 .11 .1L .2L .2L .2L .3L 41/ 41/ .4M .3L .3L .5M .5M .4M 4M .5M or No fish species Sources used for identifying fish sp. potentially found in AA: ii. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1) a) Is fish use of the AA significantly reduced by a culvert, dike, or other man-made structure or activity or is the waterbody included on the current final MDEQ list of waterbodies in need of TMDL development with listed "Probable Impaired Uses" including cold or warm water fishery or aquatic life support, or do aquatic nuisance plant or animal species (see Appendix E) occur in fish habitat? Y(N) If yes, reduce score in I above by b) Does the AA contain a documented spawning area or other critical habitat feature (i.e., sanctuary pool, upwelling area, etc.- specify in comments) for If yes, add 0.1 to the adjusted score in i or iia above: ____9 + native fish or introduced game fish? (Y) N Yellowstone River Comments: iii. Final Score and Rating: 14E. Flood Attenuation: (Applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, circle NA here and proceed to 14F.) i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating) Moderately entrenched -Entrenched-A, F, G stream Slightly entrenched - C B stream type types Estimated or Calculated Entrenchment (Rosgen 1994, 1996) D, E stream types 25-75% <25% 25-75% <25% 75% 75% 25-75% % of flooded wetland classified as forested and/or scrub/shrub .3L .2L .5M 4M .7M H8. AA contains no outlet or restricted outlet 11 9H .6M .1L .6M .4M .9H H8. .5M .7M AA contains unrestricted outlet Entrenchment ratio (ER) estimation - see User's Manual for additional guidance. Entrenchment ratio = (flood-prone width)/(bankfull width) Flood-prone width = estimated horizontal projection of where 2 x maximum bankfull depth elevation intersects the floodplain on each side of the stream. Flood-prone Width 2 x Bankfull Depth Bankfull Width Flood-prone Bankfull Entrenchment ratio Bankfull Depth (ER) width width **Entrenched Moderately Entrenched** Slightly Entrenched ER = 1.0 - 1.4 ER = 1.41 - 2.2 ER = >2.2 F stream type G stream type A stream type B stream type E stream type C stream type D stream type

Comments: flooded areas mosty mile downstream of the AA (circle)? Y (N) 14F. Short and Long Term Surface Water Storage: (Applies to wetlands that flood or pond from overbank or in-channel flow, precipitation, upland surface flow, or groundwater flow. If no wetlands in the AA are subject to flooding or ponding, circle NA here and proceed to 14G.)

ii. Are ≥10 acres of wetland in the AA subject to flooding AND are man-made features which may be significantly damaged by floods located within 0.5

i. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; and T/E = temporary/ephemeral [see instructions for further definitions

of these terms].)	Transaction in a	A department	1,000			7	STANDARD OF THE STANDARD		
Estimated maximum acre feet of water contained in wetlands within the AA that are subject to periodic flooding or ponding		>5 acre fe	eet	1.1 to 5 acre feet			≤1 acre foot		
Duration of surface water at wetlands within the AA	P/P	S/I	T/E	(P/P	S/I	T/E	P/P S/I T/E		
Wetlands in AA flood or pond ≥ 5 out of 10 years	1H	.9H	.8H	(.8HZ	.6M	.5M	.4M .3L .2L		
Wetlands in AA flood or pond < 5 out of 10 years	.9H	H8.	.7M	.7M	.5M	.4M	3L 2L 1L		

emergent reg.

14G. Sediment/Nutrient/Toxicant Retention and Removal: (Applies to wetlands with potential to receive sediments, nutrients, or toxicants through influx of surface or ground water or direct input. If no wetlands in the AA are subject to such input, circle NA here and proceed to 14H.)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low]) Sediment, nutrient, and toxicant Waterbody on MDEQ list of waterbodies in need of input levels within AA TMDL development for "probable causes" related to AA receives or surrounding land use with potential to, sediment, nutrients, or toxicants or AA receives or deliver levels of sediments, nutrients, or compounds surrounding land use with potential to deliver high levels at levels such that other functions are not of sediments, nutrients, or compounds such that other substantially impaired. Minor sedimentation, sources functions are substantially impaired. Major of nutrients or toxicants, or signs of eutrophication sedimentation, sources of nutrients or toxicants, or signs present of eutrophication present. % cover of wetland vegetation in AA < 70% < 70% Evidence of flooding / ponding in AA Yes No Yes No Yes No Yes No AA contains no or restricted outlet 1H .8H .7M .5M 5M .4M AA contains unrestricted outlet .9H .7M .6M 4M .4M .3L .2L .1L Comments: Some areas 0/2 wettomd AG 15 THE S

14H Sediment/Shoreline Stabilization: (Applies only if AA occurs on or within the banks or a river, stream, or other natural or man-made drainage, or on the shoreline of a standing water body which is subject to wave action. If 14H does not apply, circle NA here and proceed to 14L)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating

% Cover of <u>wetland</u> streambank or	Duration	getation	
shoreline by species with stability ratings of ≥6 (see Appendix F).	Permanent / Perennial	Seasonal / Intermittent	Temporary / Ephemeral
≥ 65%	(1H)	.9H	.7M
35-64%	.7М	.6M	.5M
< 35% Comments:	.3L	.2L_	.1L

14l. Production Export/Food Chain Support:

i. Level of Biological Activity (synthesis of wildlife and fish habitat ratings [circle])

General Fish Habitat	General Wildlife Habitat Rating (14C.iii.)						
Rating (14D.iii.)	(E/H)	M	L				
(E/H)	/H /	Н	М				
M	H	M	М				
L	M	М	L				
N/A	Н	М	L				

ii. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Factor A = acreage of vegetated wetland component in the AA; Factor B = level of biological activity rating from above (14I.i.); Factor C = whether or not the AA contains a surface or subsurface outlet; the final three rows pertain to duration of surface water in the AA, where P/P, S/I, and T/E are as previously defined, and A = "absent" [see instructions for further definitions of these terms].)

Α		Vegeta	ted com	ponent:	>5 acres		Vegetated component 1-5 acres						Vegetated component <1 acre					
В		gh		erate	L	ow	(Hi	$gh^{\mathcal{I}}$	Mod	erate	Lo	ow	Н	igh		erate		ow.
C	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	Nö	Yes	No	Yes	No	Yes	No
P/P	1H	.7M	.8H	.5M	.6M	.4M	.9H) .6M	.7M	.4M	.5M	.3L	.8H	.6M	.6M	.4M	.3L	
S/I	.9H	.6M	.7M	.4M	.5M	.3L	.8H	.5M	.6M	.3L	.4M	.2L	.7M	.5M	.5M	.3L		.2L
T/E/								.0,01		,04	14141	,66	.7101	IVIG.	.DIVI	,JL	.3L	.2L
Α	.8H	.5M	.6M	.3L	.4M	.2L	.7M	.4M	.5M	.2L	.3L	.1L	.6M	.4M	.4M	.2L	.2L	.1L

13 % Hoxidas weed of Airvs cover, and that is not subjected t	d 1 or be less than 0.1.) Vegetated Upland Buffer (VUB): Area with ≥ 30% plant cover, ≤ to periodic mechanical mowing or clearing (unless for weed control). **raround ≥ 75% of the AA circumference? Y N If yes, add 0.1 to the score in II
iv. Final Score and Rating: Comment	and the second of the second o
14J. Groundwater Discharge/Recharge: (check the approp	rlate indicators in I & ii below)

14J	. Groundwater Discharge/Recharge: (check the appropriate inc	ficators in i & ii below)
	i. Discharge indicators The AA is a slope wetland Springs or seeps are known or observed Vegetation growing during dormant season/drought Wetland occurs at the toe of a natural slope Seeps are present at the wetland edge AA permanently flooded during drought periods Wetland contains an outlet, but no inlet Shallow water table and the site is saturated to the surface	ii. Recharge Indicators Permeable substrate present without underlying impeding layer Wetland contains inlet but no outlet Stream is a known 'losing' stream; discharge volume decreases Other:

		Duration of s	aturation at	AA Wetland	IS FRUM GR	points and ratir OUNDWATER ARGING THE				
	į	DIOGRAMO	GROU	NDWATER .	SYSTEM					
Criteria		P/P	S/		T	None				
Broundwater Discharge or Recharg	ie .	1H	.71	1	4M	.11.				
nsufficient Data/Information	13			// N/A						
Comments:				And the same of th	YARdina v jagaja najdili 7-					
.4K. Uniqueness: Rating (working from top to bottom) Replacement potential	AA contain or matur wetland o	ix below to arm s fen, bog, wa e (>80 yr-old) r plant associa S1" by the MTI	rm springs forested	AA does n rare type (#13) is	al points and not contain pro- is and structu is high or cont tion listed as MTNHP	ral diversity ains plant	AA does not contain previously cited rare types or association and structural diversity (#13) is low-moderate			
stimated relative abundance (#11)	rare	(common)	abundant	rare	common	abundant	rare	common	abunda	
ow disturbance at AA (#12i)	1H	.9H	.8H	.8H	.6M	.5M	.5M	.4M	.3L	
Moderate disturbance at AA (#12i)	.9H	(.8H)	.7M	.7M	.5M	.4M	.4M	.3L	.2L	
fligh disturbance at AA (#12i) Comments: laseys matur	.8H	.7M	.6M	.6M	.4M	.3L	.3L	2L	1L	
Cnown or Potential Recreation or Edu	ıcation Area					Knov		otential .15H		
Public ownership or public easeme	ent with gener	al public acce	ess (no pern	nission requ	iired)	.21	1	,1011		
Private ownership with general put	olic access (ne	o permission	ramistant			15	ц	18/		
Private or public ownership withou	it general pub	lic access, or	requiring p			.15 ess .1N		.1M .05L		
Private or public ownership withou Comments:	it general pub	lic access, or	requiring p							
Private or public ownership withou Comments: General Site Notes	ıt general pub	lic access, or	requiring p	ermission fo						
Private or public ownership withou Comments:	et general pub	lic access, or	tland	ermission fo						
Private or public ownership without Comments: General Site Notes	et general pub	lic access, or	tland	ermission fo						
Private or public ownership without Comments: General Site Notes	et general pub	lic access, or	tland	ermission fo						
Private or public ownership without Comments: General Site Notes	et general pub	lic access, or	tland	ermission fo						
Private or public ownership withou Comments: General Site Notes	et general pub	lic access, or	tland	ermission fo						
Private or public ownership withou Comments: General Site Notes	et general pub	lic access, or	tland	ermission fo						

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Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: (Actual Points x Estimated AA Acreage)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	1+	, S .	1		
B. MT Natural Heritage Program Species Habitat	H	.9	11		*
C. General Wildlife Habitat	H	.9.	1 ·		X
D. General Fish Habitat	Mints Mints	10.			*
E. Flood Attenuation	Δ	,5			
F. Short and Long Term Surface Water Storage	<u></u>	.8			
G. Sediment/Nutrient/Toxicant Removal	m	, 4	1		
H. Sediment/Shoreline Stabilization	4	1. 0	. ,		**
Production Export/Food Chain Support	Joseph	, g'	1		<u> </u>
J. Groundwater Discharge/Recharge	, i		NA		
K. Uniqueness	H	,8	1.		
L. Recreation/Education Potential (bonus points)			NA		
Totals:		8,0	10		
Percent of Possible Score			80%		

Category I Wetland: (must satisfy one of the following criteria; otherwise go to Category II) Score of 1 functional point for Listed/Proposed Threatened or Endangered Species; or Score of 1 functional point for Uniqueness; or Score of 1 functional point for Flood Attenuation and answer to Question 14E.ii is "yes"; or Percent of possible score > 80% (round to nearest whole #).
Category II Wetland: (Criteria for Category I not satisfied and meets any one of the following criteria; otherwise go to Category IV)
Score of 1 functional point for MT Natural Heritage Program Species Habitat; or
Score of .9 or 1 functional point for General Wildlife Habitat; or
Score of .9 or 1 functional point for General Fish Habitat; or "High" to "Exceptional" ratings for both General Wildlife Habitat and General Fish/Aquatic Habitat; or
Score of .9 functional point for Uniqueness; or
Percent of possible score > 65% (round to nearest whole #).
Category III Wetland: (Criteria for Categories I, II, or IV not satisfied)
Category IV Wetland: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; otherwise go to Category III) "Low" rating for Uniqueness; and
Vegetated <u>wetland</u> component < 1 acre (do <u>not</u> include upland vegetated buffer); and
Percent of possible score < 35% (round to nearest whole #).

OVERALL ANALYSIS AREA RATING: (circle appropriate category based on the criteria outlined above)

MDT Montana Wetland Assessment Form (revised March 2008)

					Offit (ICVISCA Maion 2	500,
1. Project Name: Sil	lings !	<u>Byr.</u>	<u>⊘,≎\$</u> 2. M	IDT Projec	t #: 56/55 5 . Wetlands/Site #(s) ; T N or S; R E c	Control #: 4 99
3. Evaluation Date: Mo	9_Day_4	_Yr. <u>201</u> 1	4. Evaluator(s): <u></u>	Shag	5 . Wetlands/Site #(s)	:_A-I-1
6. Wetland Location(s): I	Legal: T ig or Milepost	<u>_</u> N or S;	R 27 E or W; S	8 () ; T N or S; R E c	or W; S;
iii. Watershed: 1	00100	[42_7	Watershed Name, Co	ounty:/ Pi	Appen Sellow Stor	is. Hompays
7. a. Evaluating Agency: b. Purpose of Evaluat 1. ** Wetlands pote	ion: intially affected	by MDT	project			e.g. by GPS [if applies])
Mitigation wet Mitigation wet Other	llands; post-co	nstruction	9. Assessm see instruction	ent area (/ ons on det	AA): (acres, (visermining AA) (me	asured, e.g. by GPS [if applies])
10. Classification of Wei	tland and Aqu	atic Habi	itats in AA			
HGM Class (Brinson)	` '			% of AA	HGM Classes: Rivenne (R),	Depressional (D), Slope (S),
5	PSS	(Coward	s l	40	Mineral Soil Flats (MSF), Orga Fringe (LF);	anic Soil Flats (OSF), Lacustrine
	2M		51	60	Cowardin Classes: Rock Bot bottom (UB), Aquatic Bed (AB), Unconsolidated Shore (US),
					Moss-lichen Wetland (ML), En Shrub Wetland (SS), Forested	nergent Wetland (EM), Scrub-
					Modifiers: Excavated (E), Imp Drained (PD), Farmed (F), Arti	
					Water Regimes: Permanent /	Perennial (PP), Seasonal /
11. Estimated relative ab	undance: (of s	imilarly c	lassified sites within the	same Mai	or Montana Watershed Basin, see d	
(Circle one)	Unknown		Rare		Common	Abundant
	AA: matrix below t nce vegetation			esponse –	see instructions for Montana-listed	noxious weed and aquatic
iidioai	noc vogetation	ороско	71110/ 11010/	Predomir	nant conditions adjacent to (within 50	00 feet of) AA
Conditions w	vithin AA		Managed in predominantly no is not grazed, hayed, logged, otherwise converted; does no roads or buildings; and noxion ANVS cover is ≤15%.	or ot contain	Land not cultivated, but may be moderately grazed or hayed or selectively logged; or has been subject to minor clearing; contains few roads or buildings; noxious weed or ANVS cover is ≤30%.	Land-cultivated or heavily grazed or togged; subject to substantial fill placement, grading, clearing, or hydrological elteration; high road or building density; or noxious weed or ANVS cover is >30%.
AA occurs and is managed in predo grazed, hayed, logged, or otherwise roads or occupied buildings; and no ≤15%.	converted; does n	ot contain	low disturbance		low disturbance	moderate disturbance
AA not cultivated, but may be mode selectively logged; or has been sub clearing, fill placement, or hydrologi roads or buildings; noxious weed or	ject to relatively min	nor ains few	moderate disturbance		moderate disturbance (high disturbance
AA cultivated or heavily grazed or ke substantial fill placement, grading, of alteration; high road or building der ANVS cover is >30%.	ogged; subject to re dearing, or hydrolog	latively gical	high disturbance		high disturbance	hìgh disturbance
Comments: (types of		·	season, etc.): local			+ sike, 00, sice 19
	•		other exotic vegetation			
					oltat: see above	
13. Structural Diversity: (based on num	ber of "Co	owardin" vegetated clas		nt [do not include unvegetated class	P .

13. Structural Diversity: (based on number of "Cowardin" veget	ated classes	<u>present (ao not include unve</u>	getated classes], see # 10 a	pove)	
Existing # of "Cowardin" Vegetated Classes in AA		nt management preventing (passive) ce of additional vegetated classes?			
≥3 (or 2 if 1 is forested) classes	Н	NA	NA	NA	
2 (or 1 if forested) classes	(M)	NA	NA NA	NA	
1 class, but not a monoculture	M	←-NO	YES→	L	
1 class, monoculture (1 species comprises ≥90% of total cover)	L	NA	NA NA	NA NA	

SECTION PERTAINING to FUNCTIONS & VALUES ASSESSMENT

14A. Habitat for Federally Listed or Proposed Threatened or Endangered Plants or Animals:
i. AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):

Primary or critical Secondary habitat Incidental habitat (No usable habitat	habitat ((list sp (list spe	(list sp ecles) ecles)	pecies)	Ć	DS DS DS	_				***************************************						~				
ii. Rating (use the cor		ſ														T			-	
Highest Habitat Level		<u>a</u>	oc/prima	ary	sus/	priman	y do	<u>c/sec</u>	condary	SI	us/secor	idar	/ do	oc/incid	ental	S	us/incid	ental	Nor	ne _
Functional Points and			1 <u>H</u>		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	.9H		.8	BM		.7M			.31	=		.1L			<u> </u>
14B. Habitat for plant of i. AA is Documented Primary or critical h Secondary habitat Incidental habitat (I No usable habitat	or anim (D) or S nabitat (I	als rat Suspec list species)	ted S1, cted (S) ecies)	S2, o	or S3 b	y the A	Montan one bas	a Na ed or	itural H n defini	eritag ions c	ge Progr contained	am:	(not incinstruct	cluding ions):	species	s list	ed in14.	A abov	'e)	/
ii. Rating (use the con-	clusions	from i	above	and	the ma	trix bet	ow to a	rrive	at [circ	e] the	function	al p	oints ar	nd ratin	g)	······································				
Highest Habitat Level		do	c/primar	Υ	sus/	primar	y d	oc/s	econda	y]	sus/seco	nda	ıry 📗	doc/inc	idental		sus/inci	idental	N	one
S1 Species: Functional Points and	Rating		1H			.8H			.7M		.61				2L			1L		6L\
S2 and S3 Species: Functional Points and Sources for documented			.9H			.7M			.6M		.51	VI		.:	21.		.1	1L		OL ,
14C. General Wildlife H. Evidence of overall v Substantial (based on a observations of abundant wildlife signeresence of extreminterviews with local Moderate (based on an observations of scance adequate adjacent interviews with local II. Wildlife habitat feature For class cover to be con	viidlife in any of the indent ways such bely limited to biologically of the indentity of th	use in the followiddlife is as scang hat sts with followidlife id life sig ood so sts with evenly	the AA wwing [cl #s or high at, tracks bitat feal h knowle ing [che groups cl groups cl groups ch burces h knowle from top y distrib	heckingh since the since t	i)): pecies of structure of th	diversit ctures, railable AA is or rel cks, ne AA circle a	ty (during game to the state of	ng an rails, surro few : tures	ny perio etc. ounding species s, game	during trails	Mining fer fer fer fer fer fer fer fer fer fer	w or le to arse ervi	(based no wild no wild no wild no wild eadjace ews wit ds	on any life ob dife sig ent upla h local rating	and food biologis Struct 20% of	ens d d sou sts w cural each	during per urces with know diversit n other i	eak üse wiedge	of the .	AA
percent composition of th seasonal/intermittent; T/E Structural diversity (see	e AA (s	ee #10	 Abbr 	revia	tions fo and A =	or surfa	ce wate	er du	rations	are as	s follows	: P/F nitio	= perr	nanenl	/perenn	ial;	S/I =			
#13)					311							nout	ale:	<i>/</i>				Lov	<i>,</i>	
Class cover distribution (all vegetated classes)		Eve	n		í	Unev	en			Eve	en			Unev	en		.,	Ever	n	Ì
Duration of surface	P/P	S/I	T/E	Α	P/P	S/I	T/E	Α	P/P	S/I	T/E	Α	P/P	SII	T/E	A	P/P	S/I	T/E	Α
water in ≥ 10% of AA				\vdash			174-	\square			1/-		. //	<u> </u>	1/1-			J"	1/1	
Low disturbance at AA (see #12i)	Ε	E	E	Н	E	E	Н	н	E	Н	н	М	Ε	н	м	м	E	н	M	М
Moderate disturbance at AA (see #12i)	Н	Н	Н	н	Н	Н	Н	м	Н	н	М	М	Н	М	М	L	Н	М	L	L

III. Rating (use the conclusions	from I and II above and the matr	ix below to arrive at [circle] t	ine functional points and rating)	
Evidence of wildlife use (i)		Wildlife habitat fe	atures rating (ii)	And the second
	Exceptional	High	Moderate	(Low
Substantial	1Ε	.9H	.8H	.7M
Moderate	He.	.7M	.5M	.3L
Minimai)	.6M	.4M	.2L	(.1L)
Comments:				

М

М

High disturbance at AA

(see #12i)

М

14D. General Fish Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" such that the AA could be used by fish [i.e., fish use is precluded by perched culvert or other barrier, etc.]. If the AA is not used by fish, fish use is not restorable due to habitat constraints, or is not desired from a management perspective [such as fish entrapped in a canal], then circle NA bere and proceed to 14E.) Type of Fishery: Cold Water (CW)____ Warm Water (WW)___ Use the CW or WW guidelines in the user manual to complete the matrix Habitat Quality and Known / Suspected Fish Species in AA (use matrix to arrive at [circle] the functional points and rating) Duration of surface Temporary / Ephemeral Seasonal / Intermittent Permanent / Perennial water in AA Aquatic hiding / resting / Adequate Poor Adequate Optimal Adequate Poor Optimal Optimal Poor escape cover Thermal cover optimal / 0 S 0 S 0 S 0 S S 0 S 0 S 0 S 0 S suboptimal 3L 3L .5M .4M 1E .7M .5M .9H .8H .7M .6M .5M .4M .7M 6M .9H HB. .6M FWP Tier I fish species **FWP Tier II or Native** .3L .2L .2L 4M 6M 5M 911 .8H 7M 6M 5M .5M H8. .7M .6M .5M .4M .4M Game fish species **FWP Tier III or** .1L .4M .3L .2L .2L 4M .7M .6M .5M .4M .4M .3L .5M .5M 5M .8H .7M .6M Introduced Game fish **FWP Non-Game Tier IV** .3L .2L 21 21 .2L .1L .1L .1L .3L 4M .4M 4M .3L .5M .5M .5M .4M 4M or No fish species Sources used for identifying fish sp. potentially found in AA: ii. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1) a) Is fish use of the AA significantly reduced by a culvert, dike, or other man-made structure or activity or is the waterbody included on the current final MDEQ list of waterbodies in need of TMDL development with listed "Probable Impaired Uses" including cold or warm water fishery or aquatic life support, or do aquatic nuisance plant or animal species (see Appendix E) occur in fish habitat? Y N If yes, reduce score in i above by b) Does the AA contain a documented spawning area or other critical habitat feature (i.e., sanctuary pool, upwelling area, etc.- specify in comments) for native fish or introduced game fish? Y N If yes, add 0.1 to the adjusted score in i or iia above:_ Comments: iii. Final Score and Rating: _ 14E. Flood Attenuation: (Applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, circle NA here and proceed to 14F.) i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating) Moderately entrenched -Entrenched-A, F, G stream Slightly entrenched - C, B stream type types D, E stream types Estimated or Calculated Entrenchment (Rosgen 1994, 1996) <25% 75% 25-75% <25% <25% 75% 25-75% % of flooded wetland classified as forested and/or scrub/shrub 75% 25-75% .4M .3L .2L 9H .6M H8. .7M .5M 111 AA contains no outlet or restricted outlet .4M .3L .2L 1L .8H .5M .7M .6M .9H AA contains unrestricted outlet Entrenchment ratio (ER) estimation - see User's Manual for additional guidance. Entrenchment ratio = (flood-prone width)/(bankfull width) Flood-prone width = estimated horizontal projection of where 2 x maximum bankfull depth elevation intersects the floodplain on each side of the stream. Flood-prone Width 2 x Bankfull Depth Flood-prone Bankfull Entrenchment ratio Bankfull Width (ER) Bankfull Depth width width **Moderately Entrenched** Entrenched Slightly Entrenched ER = 1.0 - 1.4 ER = >2.2 ER = 1.41 - 2.2 F stream type G stream type A stream type C stream type B stream type D stream type E stream type ii. Are ≥10 acres of wetland in the AA subject to flooding AND are man-made features which may be significantly damaged by floods located within 0.5 mile downstream of the AA (circle)? Y Comments:

14F. Short and Long Term Surface Water Storage: (Applies to wetlands that flood or pond from overbank or in-channel flow, precipitation, upland surface flow, or groundwater flow. If no wetlands in the AA are subject to flooding or ponding, circle NA here and proceed to 14G.)

i. Rating (Vorking from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; and T/E = temporary/ephemeral [see instructions for further definitions of these terms].

Estimated maximum acre feet of water contained in wetlands within the AA that are subject to periodic flooding or ponding	Towns in	>5 acre	feet	1.1	to 5 acre	feet	≤1 acre foot
Duration of surface water at wetlands within the AA	P/P	S/I	T/E	P/P	S/I	T/E	P/P S/I T/E
Wetlands in AA flood or pond ≥ 5 out of 10 years	1H	.9H	.8H	.8H	.6M	.5M	.4M .3L .2L
Wetlands in AA flood or pond < 5 out of 10 years	.9H	.8H	.7M	.7M	.5M	.4M	3L 2L 1L

14G. Sediment/Nutrient/Toxicant Retention and Removal: (Applies to wetlands with potential to receive sediments, nutrients, or toxicants through

influx of surface or ground water or direct input. If no wetlands in the AA are subject to such input, circle NA here and proceed to 14H.) Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low]) Sediment, nutrient, and toxicant Waterbody on MDEQ list of waterbodies in need of input levels within AA TMDL development for "probable causes" related to AA receives or surrounding land use with potential to sediment, nutrients, or toxicants or AA receives or deliver levels of sediments, nutrients, or compounds surrounding land use with potential to deliver high levels at levels such that other functions are not of sediments, nutrients, or compounds such that other substantially impaired. Minor sedimentation, sources, functions are substantially impaired. Major of nutrients or toxicants, or signs of eutrophication sedimentation, sources of nutrients or toxicants, or signs present. of eutrophication present. % cover of wetland vegetation in AA ≥ 70% No Evidence of flooding / ponding in AA Yes Yes No Yes No Yes Νo AA contains no or restricted outlet **1H** .8H .7M .5M .5M 4M .3L .2Ľ AA contains unrestricted outlet .9H .7M .6M .4M 4M 31 .11 Comments: recieves sediment grand pit & ag 14H Sediment/Shoreline Stabilization: (Applies only if AA occurs on or within the banks or a river, stream, or other natural or man-made drainage, or on the shoreline of a standing water body which is subject to wave action. If 14H does not apply, circle NA here and proceed to 14L) Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating) % Cover of wetland streambank or Duration of surface water adjacent to rooted vegetation shoreline by species with stability Permanent / Perennial Seasonal / Intermittent ratings of ≥6 (see Appendix F). Temporary / Ephemeral ≥ 65% 1H .9H .7M 35-64% 7M (6M. 5M < 35% .31. ŽĽ. .1L Comments: 141. Production Export/Food Chain Support: i. Level of Biological Activity (synthesis of wildlife and fish habitat ratings [circle]) **General Fish Habitat** General Wildlife Habitat Rating (14C.lii.) Rating (14D.lli.) E/H М E/H Н Н М М H М М М М N/A Н М Ii. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Factor A = acreage of vegetated wetland component in the AA; Factor B = level of biological activity rating from above (14l.i.), Factor C = whether or not the AA contains a surface or subsurface outlet; the final three rows pertain to duration of surface water in the AA, where P/P, S/I, and T/E are as previously defined, and A = "absent" [see instructions for further definitions of these terms].) Vegetated component >5 acres Α Vegetated component 1-5 acres Vegetated component <1 acre В High Moderate High Moderate High 7 Law) Moderate C Yes Nō Yes "No Yes Yes No Nö Yes Yes) Nö Yes Yes No Yes No No P/P 1H .7M .8H .5M .6M .4M .9H .6M .5M .7M .4M 3L H8. 6M .6M 4M 3L .2L S/I .9H .6M .7M .4M .5M 3L H8. .6M .5M .5M .3L <u>4M</u> .2L .7M .5M 3L .3L 2L T/E/ H8. .5M 6M .2L .7M **4M** .5M .2L .3L .2L .1L iii. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1.) Vegetated Upland Buffer (VUB): Area with ≥ 30% plant cover, ≤ 15% noxious weed or ANVS cover, and that is not subjected to periodic mechanical mowing or clearing (unless for weed control).

a) Is there an average ≥ 50 foot-wide vegetated upland buffer around ≥ 75% of the AA circumference? Y N If yes, add 0.1 to the score in ii above and adjust rating accordingly: Comments: surrounded by aguse - growl pit iv. Final Score and Rating: 14J. Groundwater Discharge/Recharge: (check the appropriate indicators in i & ii below) i. Discharge Indicators il. Recharge Indicators The AA is a slope wetland Permeable substrate present without underlying Impeding tayer Springs or seeps are known or observed Wetland contains inlet but no outlet Vegetation growing during dormant season/drought Stream is a known 'losing' stream; discharge volume decreases Wetland occurs at the toe of a natural slope Other: Seeps are present at the wetland edge AA permanently flooded during drought periods Wetland contains an outlet, but no inlet

Shallow water table and the site is saturated to the surface

Other:

Ili. Rating (use the information from i and ii above and the table below to arrive at [circle] the functional points and rating) Duration of saturation at AA Wetlands FROM GROUNDWATER
DISCHARGE OR WITH WATER THAT IS RECHARGING THE GROUNDWATER SYSTEM (S/L) 7M None Criteria .1L Groundwater Discharge or Recharge Insufficient Data/Information Comments: .4M 1H N/A

.7M

i. Rating (working from top to bottom Replacement potential	AA contains or mature wetland or	s fen, bog, wa e (>80 yr-old) plant associat" by the MT	arm springs forested ation listed	AA does r rare type (#13) is	not contain pro es and structu s high or cont tion listed as MTNHP	eviously cited ral diversity ains plant	cited ra	es not contair are types or a ructural diver low-modera	ssociations sity (#13) is/ ate
Estimated relative abundance (#11)	rare	common	abundant	rare	common	abundant	rare	common)	abundant
Low disturbance at AA (#12i)	1H	.9Н	.8H	.8H	.6M	.5M	.5M	.4M	3L
Moderate disturbance at AA (#12i)	.9H	,8H	.7M	.7M	.5M	.4M	.4M	_3L	2L
						- 01	1 01	[/ n]]	

High disturbance at AA (#12i) Comments:

14L. Recreation/Education Potential: (affords "bonus" points if AA provides recreation or education opportunity)	adt at be seen up and to the
I. is the AA a known or potential rec./ed. site: (circle) Y N (if 'Yes' continue with the evaluation; if 'No' then circle N	MA here and proceed to the
overall summary and rating page) II. Check categories that apply to the AA: Educational/scientific study; Consumptive rec.; Non-consump	ntive rec : Other
	A. 10 10 0.1
iii. Rating (use the matrix below to arrive at [circle] the functional points and rating)	

.6M

.6M

Known or Potential Recreation or Education Area	Known	Potential
Public ownership or public easement with general public access (no permission required)	,2Н	.15H
Private ownership with general public access (no permission required)	.15H	.1M
Private or public ownership without general public access, or requiring permission for public access	.1M.	.05L

by no hydratogic Connection.	senerai	Site Notes
	M877	isolated without - part of a larger wet kind
	6-18 3	no he drainic composition
	G	
		·

Л	П	
14	H	

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: (Actual Points x Estimated AA Acreage)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	1		1		
B. MT Natural Heritage Program Species Habitat	1	0	1.		
C. General Wildlife Habitat	<u></u>		1 .		
D. General Fish Habitat			NA		
E. Flood Attenuation		<u>-</u>	NA		
F. Short and Long Term Surface Water Storage			MA		
G. Sediment/Nutrient/Toxicant Removal	M	,7			
H. Sediment/Shoreline Stabilization	M	6			
I. Production Export/Food Chain Support	100	, Ÿ:	1		
J. Groundwater Discharge/Recharge	V-number of		Ν		
K. Uniqueness		, 2	1 '		
L. Recreation/Education Potential (bonus points)	4		NA		
Totals:		20	7		
Percent of Possible Score		***************************************	ZV %		

Category I Wetland: (must satisfy one of the following criteria; otherwise go to Category II) Score of 1 functional point for Listed/Proposed Threatened or Endangered Species; or Score of 1 functional point for Uniqueness; or Score of 1 functional point for Flood Attenuation and answer to Question 14E.ii is "yes"; or Percent of possible score > 80% (round to nearest whole #).
Category II Wetland: (Criteria for Category I not satisfied and meets any one of the following criteria; otherwise go to Category IV) Score of 1 functional point for MT Natural Heritage Program Species Habitat; or Score of .9 or 1 functional point for General Wildlife Habitat; or Score of .9 or 1 functional point for General Fish Habitat; or "High" to "Exceptional" ratings for both General Wildlife Habitat and General Fish/Aquatic Habitat; or Score of .9 functional point for Uniqueness; or Percent of possible score > 65% (round to nearest whole #).
Category III Wetland: (Criteria for Categories I, II, or IV not satisfied)
Category IV Wetland: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; otherwise go to Category III) "Low" rating for Uniqueness; and Vegetated wetland component < 1 acre (do not include upland vegetated buffer); and Percent of possible score < 35% (round to nearest whole #).

OVERALL ANALYSIS AREA RATING: (circle appropriate category based on the criteria outlined above)

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İ	MDT Mon	tana V	Vetl	and Assess	sment	Fo	rm (revised March :	2008)			
1. Project Name: <u></u>	illina 1	<u> </u>)as	. 🦠 2. M	IDT Proje	ct #:	<u> 46(515)</u>	_ Control #: 4199 s): AK, AT			
3. Evaluation Date: Mo	9 Day02	_Yr. <u>201</u>	<u>}</u> 4.	Evaluator(s):	Str	20	5 . Wetlands/Site #(s): AK, AI			
6. Wetland Location(s): ii. Approx. Stationia	i.Legal: T 🚄	_(N_6rS;	r.27		<u> </u>	<u> </u>	; T N or S; R E	or W; S;			
• •	•		Wat	ershed Name, Co	ounty:/_	16	per Sellowetma:	Fampeys Fillax			
7. a. Evaluating Agency b. Purpose of Evaluat 1. Wetlands pote 2. Mitigation we 3. Other	tion: entially affected tlands; pre-cor tlands; post-co	d by MDT estruction enstruction		ct			`	stimated) d, e.g. by GPS [if applies]) sually estimated) neasured, e.g. by GPS [if applies])			
10. Classification of We	tland and Aqu	iatic Habi	itats i	n AA	T		Abbreviations: (see manua	I for definitions)			
HGM Class (Brinson)	Class (Cowardin)	Modifie (Cowar		Water Regime	% of AA	`	HGM Classes: Riverine (R)	, Depressional (D), Slope (S),			
0	PEM	AI	, ,	51	100	Mineral Soil Flats (MSF), Organic Soil Flats (OSF), Lacustrine Fringe (LF);					
		,						B), Unconsolidated Shore (US),			
							Moss-lichen Wetland (ML), I Shrub Wetland (SS), Foreste	Emergent Wetland (EM), Scrub- ed Wetland (FO)			
							Modifiers (Excavated (E), it Drained (PD), Farmed (F), A	npounded (I), Diked (D), Partly			
						-		/ Perennial (PP), Seasonal /			
11. Estimated relative ab	undance: (of	similarly c	lassifi	ed sites within the	same Ma	jor h	Montana Watershed Basin, see				
(Circle one)	Unknown			Rare			Common	Abundant			
	AA: matrix below t nce vegetation						e instructions for Montana-listed				
						T	conditions adjacent to (within				
Conditions v	vithin AA		is not other roads	aged in predominantly na grazed, hayed, logged, wise converted; does no or buildings; and noxion S cover is ≤15%.	or ot contain	gra ha: fev	nd not cultivated, but may be moderately uzed or hayed or selectively logged; or s been subject to minor clearing; contains v roads or buildings; noxious weed or IVS cover Is ≤30%.	Land cultivated or heavily grazed or logged; subject to substantial fill placement, grading, clearing, or hydrological elteration; high road or building density; or noxious weed or ANVS cover is >30%.			
AA occurs and is managed in pred grazed, hayed, logged, or otherwis roads or occupied buildings; and no ≤15%.	e converted; does r	ot contain	low -	disturbance		lov	w disturbance	moderate disturbance			
AA not cultivated, but may be mod- selectively logged; or has been sub- clearing, fill placement, or hydrolog roads or buildings; noxious weed o	ject to relatively mi ical alteration; cont	nor ains few	mod	lerate disturbance		m	oderate disturbance	high disturbance			
AA cultivated or heavily grazed or to substantial fill placement, grading, atteration; high road or building de ANVS cover is >30%.	ogged; subject to re clearing, or hydrolog nsity; or noxious we	ed or	_	disturbance		hiç	gh disturbance	high disturbance			
Comments: (types o	f disturbance, i	ntensity, s	seaso	n, etc.): $\gamma\gamma \wedge 1 d$	dla	E) G	graved pit /A	I-RR ROW			

II. Prominent noxious, aquatic nulsance, & other exotic vegetation species:

iii. Provide brief descriptive summary of AA and surrounding land use/habitat: Lee about

 Structural Diversity: (based on number of "Cowardin" vegeta 	ited classes	<u>present [do not include unve</u>	getated classes), see #10 a	Dove)
Existing # of "Cowardin" Vegetated Classes in AA	initial Rating	Is current managemen existence of additions		Modified Rating
≥3 (or 2 if 1 is forested) classes	H .	NA	NA	NA
2 (or 1 if forested) classes	M	NA	NA NA	NA NA
1 class, but not a monoculture	(M)	←NO	YES→	L
1 class, monoculture (1 species comprises ≥90% of total cover)	L'	NA	NA NA	NA

SECTION PERTAINING to FUNCTIONS & VALUES ASSESSMENT

14A. Habitat for Feder i. AA is Documented Primary or critical Secondary habitat Incidental habitat No usable habitat	l (D) or habitat ((list sp (list spe	Suspe (list sp ecies)	cted (S) ecies)					ed c	on defini	tions		d in		······································	***************************************					
ii. Rating (use the cor	clusion	s from	i above	and	the ma	trix bel	ow to a	rrive	at [circ	e) the	function	al p	oints ar	nd ratir	ig)	T				
Highest Habitat Level	·····	d	doc/primary			priman	/ dod	/sec	secondary sus/seco			dan	ary doc/incidenta			s	us/incid	ental	None	
Functional Points and Rating 1H .9H .8M .7M .3L .1L 0L Sources for documented use (e.g. observations, records, etc):)_								
14B. Habitat for plant or animals rated S1, S2, or S3 by the Montana Natural Heritage Program: (not including species list. AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions): Primary or critical habitat (list species) Secondary habitat (list species) Incidental habitat (list species) No usable habitat II. Rating (use the conclusions from i above and the matrix below to arrive at [circle] the functional points and rating)										i list	ed in14	A abov	re)							
Highest Habitat Level		-	c/primar			primar	1		econda	i	sus/seco				idental	T	sus/inc	idental	No	one
S1 Species:				1H		.8H			.7M		.6M				2L			1L	/OL	
S2 and S3 Species: Functional Points and Rating .9H					cords,	.7M			.6M		.51	M -		.:	2L.		.1L			0L
1. Evidence of overall wildlife use in the AA (circle substantial, moderate, or low based on supporting evidence): Substantial (based on any of the following [check]): observations of abundant wildlife #s or high species diversity (during any period) abundant wildlife sign such as scat, tracks, nest structures, game trails, etc. presence of extremely limiting habitat features not available in the surrounding area interviews with local biologists with knowledge of the AA Moderate (based on any of the following [check]): observations of scattered wildlife groups or individuals or relatively few species during peak periods common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, etc. adequate adjacent upland food sources interviews with local biologists with knowledge of the AA interviews with local biologists with knowledge of the AA																				
ii. Wildlife habitat features (Working from top to bottom, circle appropriate AA attributes in matrix to arrive at rating. Structural diversity is from #13. For class cover to be considered evenly distributed, the most and least prevalent vegetated classes must be within 20% of each other in terms of their percent composition of the AA (see #10). Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; T/E = temporary/ephemeral; and A = absent [see instructions for further definitions of these terms])											ir									
Structural diversity (see #13)	High Moderate												Lov	1						
Class cover distribution (all vegetated classes)	Even				Uneven				Even Unev			en		Even						
Duration of surface water in ≥ 10% of AA	P/P	S/I	T/E	Α	P/P	S/I	T/E	Α	P/P	(S/I)T/E	A	P/P	S/I	T/E	Α	P/P	S/I	T/E	Α
Low disturbance at AA (see #12i)	E	Ε	E	н	E	Е	Н	н	Ε	Н	Н	М	E	Н	М	М	E	н	М	М
Moderate disturbance at AA (see #12i)	Н	Н	Н	Н	Н	Н	Н	М	Н	Н	М	м	н	М	М	L	Н	М	L	L
High disturbance at AA	М	м	м	1	м	M	1.		M	M	1),		м	ı	1		,	1	ı	

iii. Rating (use the conclusions from i and ii above and the matrix below to arrive at [circle] the functional points and rating)

Evidence of wildlife use (i)	Wildlife habitat features rating (li)									
	Exceptional	High	Moderate	Low						
Substantial	1€	.9H	.8H	.7M						
Moderate	.9H	.7M	.5M	.3L						
Minimal	.6M	.4M	.2L)	.1L						

14D. General Fish Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" such that the AA could be used by fish [i.e., fish use is precluded by perched culvert or other barrier, etc.]. If the AA is not used by fish, fish use is not restorable due to habitat constraints, or is not desired from a management perspective [such as fish entrapped in a canal], then circle NA here and proceed to 14E.) Type of Fishery: Cold Water (CW) Warm Water (WW) Use the CW or WW guidelines in the user manual to complete the matrix Habitat Quality and Known / Suspected Fish Species in AA (use matrix to arrive at [circle] the functional points and rating) Duration of surface Seasonal / Intermittent Temporary / Ephemeral Permanent / Perennial water in AA Aquatic hiding / resting / Optimal Adequate Poor Poor Adequate Poor Optimal Adequate Optimal escape cover Thermal cover optimal / S 0 S 0 S 0 S 0 S S 0 S 0 S 0 S 0 suboptimal .3L 3L .7M 4M 6M .5M HB. .7M .6M .5M 9H .8H .7M .6M .5M .4M 1E 911 FWP Tier I fish species **FWP Tier II or Native** .2L 2L .6M .5M .4M .3L 4M 4M 81-1 7M .6M .5M .5M .8H .7M .6M .5M Game fish species **FWP Tier III or** .2L 11 .3L 21 .3L .5M 4M 5M .5M 4M .7M .6M .5M .4M .4M HB. .7M .6M Introduced Game fish **FWP Non-Game Tier IV** .11 .3L 4M 4M .3L 31 .2L .2L .2L .21 .11 .11 .4M .4M 4M .5M .5M .5M or No fish species Sources used for identifying fish sp. potentially found in AA: ii. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1) a) Is fish use of the AA significantly reduced by a culvert, dike, or other man-made structure or activity or is the waterbody included on the current final MDEQ list of waterbodies in need of TMDL development with listed "Probable Impaired Uses" including cold or warm water fishery or aquatic life support, or do aquatic nuisance plant or animal species (see Appendix E) occur in fish habitat? YN If yes, reduce score in i above by b) Does the AA contain a documented spawning area or other critical habitat feature (i.e., sanctuary pool, upwelling area, etc.- specify in comments) for native fish or introduced game fish? Y N If yes, add 0.1 to the adjusted score in i or iia above: Comments: iii. Final Score and Rating: 14E. Flood Attenuation: (Applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, circle NA here and proceed to 14F.) i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating) Entrenched-A, F, G stream Moderately entrenched -Slightly entrenched - C. D, E stream types B stream type types Estimated or Calculated Entrenchment (Rosgen 1994, 1996) 25-75% <25% <25% 75% 25-75% <25% 75% 75% 25-75% % of flooded wetland classified as forested and/or scrub/shrub .3L .2L .5M .4M 111 .9H .6M .8H .7M AA contains no outlet or restricted outlet .7M .21 1L .6M .4M .9H .8H .5M AA contains unrestricted outlet Entrenchment ratio (ER) estimation - see User's Manual for additional guidance. Entrenchment ratio = (flood-prone width)/(bankfull width) Flood-prone width = estimated horizontal projection of where 2 x maximum bankfull depth elevation intersects the floodplain on each side of the stream. Flood-prone Width 2 x Bankfull Depth Bankfull Width Flood-prone Bankfull Entrenchment ratio Bankfull Depth (ER) width width Slightly Entrenched **Moderately Entrenched** Entrenched ER = 1.0 - 1.4 ER = 1.41 - 2.2 ER = >2.2 F stream type G stream type A stream type B stream type E stream type C stream type D stream type ii. Are ≥10 acres of wetland in the AA subject to flooding AND are man-made features which may be significantly damaged by floods located within 0.5 mile downstream of the AA (circle)? Y Comments: 14F. Short and Long Term Surface Water Storage: (Applies to wetlands that flood or pond from overbank or in-channel flow, precipitation, upland

Surface flow or groundwater flow. If no wetlands in the AA are subject to flooding or ponding, circle NA here and proceed to 14G.)

i. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; and T/E = temporary/ephemeral [see instructions for further definitions of those terme!)

Estimated maximum acre feet of water contained in wetlands within the AA that are subject to periodic flooding or ponding		>5 acre fe	et	1.1	to 5 acre t	feet	≤1 acre foot			
Duration of surface water at wetlands within the AA	P/P	S/I	T/E	P/P	S/I	T/E	PIP SIL) TIE			
Wetlands in AA flood or pond ≥ 5 out of 10 years	1H	.9H	.8H	.8H	.6M	.5M	.4M (.3L .2L			
Wetlands in AA flood or pond < 5 out of 10 years	.9H	.8H	.7M	.7M	.5M	.4M	3L 2L 1L			

14G. Sediment/Nutrient/Toxicant Retention and Removal: (Applies to wetlands with potential to receive sediments, nutrients, or toxicants through influx of surface or ground water or direct input. If no wetlands in the AA are subject to such input, circle NA here and proceed to 14H.)

Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low])

ediment, nutrient, and toxicant

Waterbody on MDEQ list of waterbodies in need of Sediment, nutrient, and toxicant input levels within AA TMDL development for "probable causes" related to AA receives or surrounding land use with potential to sediment, nutrients, or toxicants or AA receives or deliver levels of sediments, nutrients, or compounds surrounding land use with potential to deliver high levels at levels such that other functions are not of sediments, nutrients, or compounds such that other substantially impaired. Minor sedimentation, sources functions are substantially impaired. Major sedimentation, sources of nutrients or toxicants, or signs of nutrients or toxicants, or signs of eutrophication present. of eutrophication present. % cover of wetland vegetation in AA ≥ 70% < 70% ≥ 70% < 70% Evidence of flooding / ponding in AA Yes No. Yes No Yes No Yes No AA contains no or restricted outlet 1H (8H) .7M .4M 5M .5M .3L .2L AA contains unrestricted outlet .6M 4M 3L 4M Comments:

14H Sediment/Shoreline Stabilization: (Applies only if AA occurs on or within the banks or a river, stream, or other natural or man-made drainage, or on the shoreline of a standing water body which is subject to wave action. If 14H does not apply, circle NA here and proceed to 14I.)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)

% Cover of wetland streambank or	Duration of surface water adjacent to rooted vegetation										
shoreline by species with stability ratings of ≥6 (see Appendix F).	Permanent / Perennial	Seasonal / Intermittent	Temporary / Ephemeral								
≥ 65%	1H	.914	.7М								
35-64%	.7М	7.6ML	.5M								
< 35%	.3L	/ .2L	.1L								

Comments:

Other:

14I. Production Export/Food Chain Support:

i. Level of Biological Activity (synthesis of wildlife and fish habitat ratings [circle])

General Fish Habitat	General Wildlife Habitat Rating (14C.iii.)								
Rating (14D.lii.)	E/H	M	(1)						
E/H	Н	Н	M						
M	Н	M	М						
<u> </u>	M	M	4						
(N/À)	Н	M	<u> </u>						

II. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Factor A = acreage of vegetated wetland component in the AA; Factor B = level of biological activity rating from above (14I.i.); Factor C = whether or not the AA contains a surface or subsurface outlet; the final three rows pertain to duration of surface water in the AA, where P/P, S/I, and T/E are as previously defined, and A = "absent" [see instructions for further definitions of these terms].)

Α	Vegetated component >5 acres						Vegetated component 1-5 acres							Vegetated component <1 acre					
В	Hi	gh	Mod	erate	L	ow	H	gh	Mode	erate	Lo	w	H	gh	Mod	erate		w	
C	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No)	
P/P	1H	.7M	.8H	.5M	.6M	.4M	.9H	.6M	.7M	.4M	.5M	.3L	.8H	.6M	.6M	.4M	.3L	.2L	
S/I	.9H	.6M	.7M	.4M	.5M	.3L	.8H	.5M	.6M	.3L	.4M	.2L	.7M	.5M	.5M	.3L	.3L	(.2L)	
T/E/	.8H	.5M	.6M	ai	.4M	.2L	.7M	.4M	.5M	21	.3L	11	.6M	.4M	.4M	.2L	.2L	.1L	
Α	.011	.0101	.0181		1.4141	.£L	. 7 171	1 .7181	.5(4)	.2L	.02		.0141	1181	1 141	166	16.6.	.16	

III. Modified Rating (NOTE: Modified score cannot exceed 1 of 15% noxious weed or ANVS cover, and that is not subjected to properly a) Is there an average ≥ 50 foot-wide vegetated upland buffer are above and adjust rating accordingly:	
Iv. Final Score and Rating: Comments:	Upland buffer not vegetated
14J. Groundwater Discharge/Recharge: (check the appropriate	e indicators in I & il below)
i. Discharge indicators The AA is a slope wetland Springs or seeps are known or observed Vegetation growing during dormant season/drought Wetland occurs at the toe of a natural slope Seeps are present at the wetland edge AA permanently flooded during drought periods Wetland contains an outlet, but no inlet Shallow water table and the site is saturated to the surface	II. Recharge Indicators Permeable substrate present without underlying impeding layer Wetland contains inlet but no outlet Stream is a known 'losing' stream; discharge volume decreases Other:

iii. Rating (use the information from i and ii above and the table below to arrive at [circle] the functional points and rating)

Duration of saturation at AA Wetlands FROM GROUNDWATER

DISCHARGE OR WITH WATER THAT IS RECHARGING THE

GROUNDWATER SYSTEM

Criteria

P/P S/I T None

Groundwater Discharge or Recharge 1H .7M .4M .1L

Insufficient Data/Information

Comments:

14K, Uniqueness:

: Seting Averking from ten to hottom	use the matri	x below to arr	ive at [circle]	the functions	at points and	rating) eviously cited				
Replacement potential	AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland or plant association listed						AA does not contain previously cited rare types or associations and structural diversity (#13) is low-moderate			
(411)	as "S1" by the MTNHP				MTNHP rare common abundant			common	1	
Estimated relative abundance (#11) Low disturbance at AA (#12i)	rare 1H	.9H	.8H	.8H	.6M	.5M	,5M	.4M	.3L .2L	
Moderate disturbance at AA (#12i)	.9H .8H	.8H .7M	.7M .6M	.7 <u>M</u> .6M	.5M .4M	.4M .3L	.4M .3L	.3L (.2L)	.2L	
High disturbance at AA (#12i)	1 .0⊓	1 ,7 (V)						Mary Mary Company		

Comments:

14L. Recreation/Education Potential: (affords "bonus" points if AA provides recreation or education opportunity) i. Is the AA a known or potential rec./ed. site: (circle) Y N (if 'Yes' continue with the evaluation; if 'No' then circle NA here and proceed to the overall summary and rating page)
overall summary and rating page) II. Check categories that apply to the AA:Educational/scientific study;Consumptive rec.;Non-consumptive rec.;Other III. Rating (use the matrix below to arrive at [circle] the functional points and rating)

	Known	Potential
Known or Potential Recreation or Education Area	.2H	.15H
Public ownership or public easement with general public access (no permission required)	.15H	.1M
Private ownership with general public access (no permission required)	.1M.	.05L
Private ownership with out general public access, or requiring permission for public access	, TIVI.	1 .002

Comments:

Gene	ral Site Notes
Wis	ral Site Notes state dusotland in middle of a ravel ward that is a parational, protecting a compart of wetland "w" of
	prologically a compared of method "w"
A.""	isolated westomd in RP ROW

	•

A	/_	1	A-	I
7		7	7	_

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: (Actual Points x Estimated AA Acreage)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	1	0.	1 ′		
B. MT Natural Heritage Program Species Habitat	1	0	1 5		
C. General Wildlife Habitat		. 2	1.,		
D. General Fish Habitat			N-A		
E. Flood Attenuation			NA		
F. Short and Long Term Surface Water Storage	1	13	Į, ·		X.
G. Sediment/Nutrient/Toxicant Removal	+1	_\$	<u>.</u>		-A
H. Sediment/Shoreline Stabilization			NA		
Production Export/Food Chain Support			1		
J. Groundwater Discharge/Recharge			NA		
K. Uniqueness	1	,	1		
L. Recreation/Education Potential (bonus points)		, -	NA		
Totals:		17	7		
Percent of Possible Score			24%		

Category I Wetland: (must satisfy one of the following criteria; otherwise go to Category II) Score of 1 functional point for Listed/Proposed Threatened or Endangered Species; or Score of 1 functional point for Uniqueness; or Score of 1 functional point for Flood Attenuation and answer to Question 14E.ii is "yes"; or Percent of possible score > 80% (round to nearest whole #).
Category II Wetland: (Criteria for Category I not satisfied and meets any one of the following criteria; otherwise go to Category IV) Score of 1 functional point for MT Natural Heritage Program Species Habitat; or Score of .9 or 1 functional point for General Wildlife Habitat; or Score of .9 or 1 functional point for General Fish Habitat; or "High" to "Exceptional" ratings for both General Wildlife Habitat and General Fish/Aquatic Habitat; or Score of .9 functional point for Uniqueness; or Percent of possible score > 65% (round to nearest whole #).
Category III Wetland: (Criteria for Categories I, II, or IV not satisfied)
Category IV Wetland: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; otherwise go to Category III) "Low" rating for Uniqueness; and Vegetated wetland component < 1 acre (do not include upland vegetated buffer); and Percent of possible score < 35% (round to nearest whole #).

OVERALL ANALYSIS AREA RATING: (circle appropriate category based on the criteria outlined above)

II

Ш

IV

1. Project Name: 1. Project Name: 1. Project Name: 1. Project Name: 1. Auditable Date: 1. Auditable Date: 1. Auditable Location(s): Legal: 1. Legal: 1. Approx. Stationing or Mileposts: 1. Approx. Stationing or Mileposts: 1. Watershad: 1. Approx. Stationing or Mileposts: 1. Watershad: 1. Disputs of Evaluation: 1. Williands polentially affected by MDT project 2. Miligation wetlands; pre-construction 3. Miligation wetlands; pre-construction 4. Ciber 1. Williands polentially affected by MDT project 2. Miligation wetlands; pre-construction 3. Miligation wetlands; pre-construction 4. Ciber 1. Williands polentially affected by MDT project 2. Miligation wetlands; pre-construction 3. Miligation wetlands; pre-construction 4. Ciber 1. Williands polentially affected by MDT project 2. Miligation wetlands; pre-construction 3. Miligation wetlands; pre-construction 4. Ciber 1. Williands polentially affected by MDT project 2. Miligation wetlands; pre-construction 3. Miligation wetlands; pre-construction 4. Ciber 1. Williands polentially affected by MDT project 2. Miligation wetlands; pre-construction 3. Miligation wetlands; pre-construction 4. Ciber 1. Williands polentially affected by MDT project 2. Miligation wetlands; pre-construction 3. Miligation wetlands; pre-construction 4. Ciber 1. Williands polentially affected by MDT project 2. Miligation wetlands; pre-construction 3. Miligation wetlands; pre-construction 4. Ciber 1. Williands polentially affected by MDT project 2. Miligation wetlands; pre-construction 3. Miligation wetlands; pre-construction 4. Ciber 1. Ciber pre-construction of Wetland and Aquatte Habitats in AA Abbreviations; (see menual for definitions) 1. Miliands polentially affected by MDT project 2. Miliands polentially affected by MDT project 3. Miliands polentially affected by MDT project 3. Miliands polentially affected by MDT project 4. Ciber pre-construction of Molentially affected by MDT project 4. Ciber pre-construction of Molentially affected by	•	MDT Mont	tana V	vetland A	ssessme	ntr	orm (revised ward) 2	11166	
3. Evaluation Dato: Mo Day 1, 2011 A. Evaluator(s): 6. Cann 6. Wetlands/Site #(s): A Lexifoxid Cann A. F. L. Approx. Stationing or hilleposts: III. Approx. Stationing or hilleposts: III. Watershed: 1 Q D D Q 1 Watershed Name, County: 1 Q C C Yellands Share Cann Dec. 1 Q I I I I I Nors; R 2 G E Por W. S 1 III. Watershed: 1 Q D D Q 1 Watershed Name, County: 1 Q C C Yellands Share Cann Dec. 1 Q I I I I I I I I I I I I I I I I I I	1. Project Name:	illings	By	<u> 24,55</u>	2. MDT P	roject	#; <u>56 (33)</u>	Control #:	
iii. Watershed:	2 Evoluation Data: Mo	Day 9	Yr 2011	4. Evaluato	r(s): 6 R	011	5 . Wetlands/Site #(s)	: Lateriano (and	λA
8. Wetland size: (total acres)	6. Wetland Location(s): ii. Approx. Stationi	i. Legal: T	(N) or S; s:	KSWEDIW	Soudh h	alt	of 505 14		,
b. Purpose of Evaluation: 1. Weldlands polentially affected by MDT project 2. Mitigation wetlands; pre-construction 3. Mitigation wetlands; post-construction 4. Other 10. Classification of Wetland and Aquatic Habitats in AA High Class (Brinson) Class Modifier Water Regime % of AA	lii. Watershed: 1	00200	0.1	Watershed N	lame, County:	υρ	per relacisant P	country	
2. Mitigation wetlands; pre-construction 3. Mitigation wetlands; post-construction 4. Other 4. Other 4. Other 5. Assessment area (AA): (acres, functions on determining AA) 4. Other 6. Other 6. Other 6. Other 7. Other 6. Other 7. Other 7. Other 7. Other 8. Other 8. Other 8. Other 8. Other 9.	b. Purpose of Evalua	ition:					(measured		
Abbreviations: (see manual for definitions) HGM Class (Brinson) Class Modifier (Cowardin) Clawardin) Clawardin (Cowardin) R R R R R R R R R R R R R	Mitigation we Mitigation we	etlands; pre-cons etlands; post-cor	struction nstruction	9. A	ssessment ar Instructions or			asured, e.g. by GPS [if applies])	
HGM Class (Brinson) Class (Cowardin) Cowardin) Cowardin) Cowardin) Cowardin) Cowardin) Cowardin) Cowardin) Cowardin) Cowardin) Cowardin (Cowardin) Cowardin) Cowardin (Cowardin) owardin) Cowardin (Cowardin (Cowardin) Cowardin (Cowardin (Cowardin) Cowardin (Cowardin) Cowardin (Cowardin (Cowardin) Cowardin (Classes: Rock Bottom (RB), Unconsolidated bottom (UB), Aquatic Bed (AB), Unconsolidated bottom (UB), Aquatic Bed (AB), Unconsolidated Shore (US), Mossilchen Weltand (FO) Modiffers: Excavated (E), Impounded (I), Diked (D), Partly Drained (PI), Artificial (A) Water Regimes: Permanent / Perennal (PP), Seasonal / Intermittent (SI), Temporary / Ephemeral (TE) Intermittent (SI), Temporary / Ephemeral (TE) Nordin (Cowardin (Cowardin) Common Abundant Commo				itats in AA		No	wan redocature	e. Or red.	
R EM EA PP Id Overardin Classes: Rock Bottom (RB), Unconsolidated bottom (UB), Aquatic Bed (AB), Unconsolidated Shore (US), Moss-lichen Welland (RD), Emergent Welland (EM), Scrub-Shrub Welland (RD), Emergent Welland (EM), Scrub-Shrub Welland (SS), Forested Welland (FO) Modifiers: Excavated (E), Impounded (I), Diked (D), Partly Drained (PD), Farmed (F), Artificial (A) Water Regimes: Permanent / Perennial (PP), Seasonal / Intermittent (SI), Temporary / Ephemeral (TE) 11. Estimated relative abundance: (of similarly classified sites within the same Major Montana, Watershed Basin, see definitions) (Circle one) Unknown Rare Common Abundant 12. General condition of AA: I. Disturbance: (use matrix below to determine [circle] appropriate response — see instructions for Montana-listed noxious weed and aquatic nuisance vegetation species (ANVS) lists) Predominant conditions adjacent to (within 500 feet of) AA Managed in piedominanity natural state; is not graped in piedominanity natural state; is not graped (layed, logged, or observed or hayed or seatcheby forgod or on the seatcheby forgod o		Class	Modifie	r Water R din)	egime % o	f AA	HGM Classes: Riverine (R).	Depressional (D), Stope (S),	
bottom (UB), Aquatic Bed (AB), Unconsolidated Shore (US), Moss-lichen Weitland (ML), Emergent Weitland (FO) Shrub Weitland (SS), Forested Weitland (FO) Modifiers: Excavated (E), Impounded (I), Diked (D), Partly Drained (PD), Farmed (F), Artificial (A) Water Regimes: Permanent / Perennial (PP), Seasonal / Intermittent (SI), Temporary / Ephemeral (TE) 11. Estimated relative abundance: (of similarly classified sites within the same Major Montana Watershed Basin, see definitions) (Circle one) Unknown Rare Common Abundant 12. General condition of AA: I. Disturbance: (use matrix below to determine [circle] appropriate response – see instructions for Montana-listed noxious weed and aquatic nuisance vegetation species (ANVS) lists) Predominant conditions adjacent to (within 500 feet of) AA Managed in predominantly natural state; is not option of the property of the prop	R	EM	A	I W	10	<u> </u>	Fringe (LF);		
Modifiers: Excavated (E), Impounded (I), Diked (D), Partly Drained (PD), Farmed (F), Artificial (A) Water Regimes: Permanent / Perenntal (PP), Seasonal / Intermittent (SI), Temporary / Ephemeral (TE) 11. Estimated relative abundance: (of similarly classified sites within the same Major Montana Watershed Basin, see definitions) (Circle one) Unknown Rare Common Abundant 12. General condition of AA: I. Disturbance: (use matrix below to determine [circle] appropriate response – see instructions for Montana-listed noxious weed and aquatic nuisance vegetation species (ANVS) lists) Predominant conditions adjacent to (within 500 feet of) AA Managed in predominantly natural state; is not grazed, bayed, bayed, bayed, bayed, logged, or otherwise corrected does not contain roads or buildings; and noxious weed or ANVS cover is s15%. AA cocurs and is managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted does not contain roads or cocupled buildings; and noxious weed or ANVS cover is s15%. AA cocurs and is managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted does not contain roads or buildings; and noxious weed or ANVS cover is s15%. AA cocurs and is managed in predominantly natural state; is not grazed or hayed or selectively logged or otherwise converted does not contain roads or buildings; and noxious weed or ANVS cover is s15%. AA cocurs and is managed in predominantly natural state; is not grazed or hayed or selectively logged or otherwise converted does not contain roads or buildings; and noxious weed or ANVS cover is s15%. AA cocurs and is managed in predominantly natural state; is not grazed or hayed or selectively logged or otherwise contains few reads or buildings; and noxious weed or ANVS cover is s15%. AA cocurs and is managed in predominantly natural state; is not grazed or hayed or selectively logged or hayed or selectively logged or hayed or selectively logged or hayed or selectively logged or hayed or selectively logged	R	Σm	5.	A PP	12	0	bottom (UB), Aquatic Bed (AB Moss-lichen Wetland (ML), Er), Unconsolidated Shore (US), nergent Wetland (EM), Scrub-	
Water Regimes: Permanent / Perennial (PP), Seasonal / intermittent (SI), Temporary / Ephemeral (TE) 11. Estimated relative abundance: (of similarly classified sites within the same Major Montana Watershed Basin, see definitions) (Circle one) Unknown Rare Common Abundant 12. General condition of AA: I. Disturbance: (use matrix below to determine [circle] appropriate response – see instructions for Montana-listed noxious weed and aquatic nuisance vegetation species (ANVS) lists) Predominant conditions adjacent to (within 500 feet of) AA Managed in predominantly natural state; is not grazed, larged, larged, larged, larged or abyed or selectively logged, or otherwise converted, does not contain roads or coupled buildings; and novious weed or ANNS cover is \$15%. AA occurs and is managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted, does not contain roads or coupled buildings; and novious weed or ANNS cover is \$15%. AA not cutivated, but may be moderately grazed or hayed or selectively logged, or otherwise converted, does not contain few roads or buildings; novious weed or ANNS cover is \$15%. AA not cutivated, but may be moderately grazed or hayed or selectively logged, or otherwise converted, does not contain roads or occupied buildings; and novious weed or ANNS cover is \$15%. AA not cutivated, but may be moderately grazed or hayed or selectively logged, or otherwise converted, does not contain few roads or buildings; novious weed or ANNS cover is \$15%. AA occurs and is managed in predominantly natural state; is not grazed or hayed or selectively logged, or otherwise converted, does not contain few roads or buildings; novious weed or ANNS cover is \$15%. An occurs and is managed in predominantly natural state; is not grazed or hayed or selectively logged, or otherwise converted, does not contain few roads or buildings; novious weed or ANNS cover is \$15%. An occurs and is managed in predominantly natural state; is not grazed or hayed or selectively logged, or otherw			-7				Modifiers: Excavated (E), Imp	ounded (I), Diked (D), Partly	
12. General condition of AA: I. Disturbance: (use matrix below to determine [circle] appropriate response – see instructions for Montana-listed noxious weed and aquatic nuisance vegetation species (ANVS) lists) Predominant conditions adjacent to (within 500 feet of) AA							Water Regimes: Permanent /	Perennial (PP), Seasonal /	(
I. Disturbance: (use matrix below to determine [circle] appropriate response — see instructions for Montana-listed noxious weed and aquatic nuisance vegetation species (ANVS) lists) Predominant conditions adjacent to (within 500 feet of) AA Land not cultivated, but may be moderately grazed or heaved or selectively logged, or otherwise converted; does not contain roads or occupied buildings; and noxious weed or ANVS cover is \$15%. An not cultivated, but may be moderately grazed or hayed or selectively logged, or otherwise converted; does not contain roads or occupied buildings; and noxious weed or ANVS cover is \$15%. An not cultivated, but may be moderately grazed or hayed or selectively logged, or otherwise converted; does not contain roads or occupied buildings; and noxious weed or ANVS cover is \$15%. An not cultivated, but may be moderately grazed or hayed or selectively logged, or has been subject to relatively minor clearing, fill placement, or hydrological alteration; contains few roads or buildings; noxious weed or ANVS cover is \$30%. An outstanded or heavily grazed or hayed or ontains few roads or buildings, noxious weed or ANVS cover is \$30%. An outstanded or heavily grazed or hayed or selectively logged, or otherwise converted; does not contain few roads or buildings; noxious weed or have or have or selectively logged. I and not cultivated, but may be moderately grazed or hayed or selectively formance in the properties of the properties and noxious weed or ANVS cover is \$30%. An outstand noxious deed or have of the properties and noxious weed or have or selectively formance in the properties of the proper			imilarly c			Major (Montana Watershed Basin, see d	efinitions) Abundant	
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Conditions within AA String grazed, hayed, logged, or otherwise converted; does not contain roads or buildings; and noxious weed or ANVS cover is \$15%. AA occurs and is managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted; does not contain roads or occupied buildings; and noxious weed or ANVS cover is \$15%. AA not cuttivated, but may be moderately grazed or hayed or selectively logged; or has been subject to relatively minor clearing, fill placement, or hydrological alteration; contains few roads or buildings; noxious weed or ANVS cover is \$30%. In the prodominantly natural state; is not grazed, hayed, logged, or otherwise converted; does not contain roads or occupied buildings; and noxious weed or ANVS cover is \$30%. In the prodominantly natural state; is not grazed or haved or ANVS cover is \$30%. In the prodominantly natural state; is not grazed or haved or ANVS cover is \$30%. In the prodominantly natural state; is not grazed or haved or ANVS cover is \$30%. In the prodominantly natural state; is not grazed or haved or ANVS cover is \$30%. In the prodominantly natural state; is not grazed or haved or ANVS cover is \$30%. In the prodominantly natural state; is not grazed or haved or ANVS cover is \$30%. In the prodominantly natural state; is not grazed or haved or ANVS cover is \$30%. ANVS cover is \$30%. In the prodominantly natural state; is not grazed or haved or ANVS cover is \$30%. ANVS cover is \$30%. In the prodominantly natural state; is not grazed or haved or	nuisa	ance vegetation	species (ANVS) IISIS)	Pred	ominat	nt conditions adjacent to (within 50		_
grazed, hayed, logged, or otherwise converted; does not contain roads or occupied baildings; and noxious weed or ANVS cover is \$15%. An not cultivated, but may be moderately grazed or hayed or setectively logged; or has been subject to relatively minor clearing, fill placement, or hydrological alteration; contains few roads or buildings; noxious weed or ANVS cover is \$30%. An cultivated or heavity grazed or logged; subject to relatively substantial fill placement, grading, clearing, or hydrological elteration; building density, or noxious weed or high disturbance high disturbance high disturbance high disturbance high disturbance	Conditions	within AA		is not grazed, have otherwise converte roads or buildings;	ed, logged, or ed; does not contail ; and noxious weed	n h	razed or hayed or selectively logged, or as been subject to minor clearing; contains ay roads or buildings; noxlous weed or	subject to substantial fill placement, grading, clearing, or hydrological atteration; high road or building density; or noxious weed or ANVS	
AA not cultivated, but may be moderately grazed or hayed or selectively logged; or has been subject to relatively minor clearing, fili placement, or hydrological elteration; contains few roads or buildings; noxious weed or ANVS cover is \$30%. AA cultivated or heavily grazed or logged; subject to relatively substantial fill placement, grading, clearing, or hydrological elteration; high mad or building density, or noxious weed or high disturbance high disturbance high disturbance	grazed, hayed, logged, or otherwis roads or occupied buildings; and r	se converted; does no	ot contain	low disturbanc	ce	i	ow disturbance	moderate disturbance	
AA cultivated or heavily grazed or logged; subject to relatively substantial fill placement, grading, clearing, or hydrological elteration; high mad or building density, or noxious weed or high disturbance high disturbance high disturbance	AA not cultivated, but may be mod selectively logged; or has been su clearing, fill placement, or hydrolog	bject to relatively min gical alteration; contai	ior ilas few	moderale dist	urbance	n	noderate disturbance	high disturbance	
THE STATE OF THE S	AA cultivated or heavily grazed or substantial fill placement, grading, etteration; high road or building de	logged; subject to rek clearing, or hydrologi	latively lical	high disturban				high disturbance	
Comments: (types of disturbance, Intensity, season, etc.): Drainegr canal wild acent rock leves	Comments: (types o	of disturbance, In	ntensity, s	eason, etc.):	Draines	r 00	anal whole arend	rock leves	
ii. Prominent noxious, aquatic nuisance, & other exotic vegetation species:	II. Prominent noxio	us, aquatic nuls	sance, &	other exotic v	egetation spe	cles:		,	
III. Provide brief descriptive summary of AA and surrounding land use/habitat: Adjacent is pasture collisted Tields.									-
13. Structural Diversity: (based on number of "Cowardin" vegetated classes present [do not include unvegetated classes], see #10 above) Initial Is current management preventing (passive) Modified Rating	13. Structural Diversity:	(based on numb	per of "Co	wardin" vegeta		esent Is c	(do not include unvegetated class urrent management preventing	(passive)	7

Existing # of "Cowardin" Vegetated Classes in AA	Initial Rating	ts current managemen existence of addition	t preventing (passive) al vegetated classes?	Modified Rating
≥3 (or 2 if 1 is forested) classes	Н	NA .	NA	NA
2 (or 1 if forested) classes	М	NA	NA NA	NA.
1 class, but not a monoculture	Μ,.	←NO	YES→	<u> </u>
1 class, monoculture (1 species comprises ≥90% of total cover)	L	NA .	NA NA	NA NA

Cómments:

Vettand C := an additicial intigation anal that supports
wetland plants.

1

SECTION PERTAINING to FUNCTIONS & VALUES ASSESSMENT

14A. Habitat for Federally Listed or Proposed Threatened or Endangered Plants or Animals:

Moderate

Minimal Comments:

AA is Documente Primary or critical Secondary habitat Incidental habitat No usable habitat	habit t (list (list s	at (list s species	pecies))		contain D S D S S	Ϊ.	e one b	ased	on defi	nitions	contai	ned i	n instru	ections)					•	
II. Rating (use the co	nclusi	ons from	iabove	an an	d the m	atrix b	elow to	arriv	ve at (cir	cle) th	e funct	onal	points	and rat	ing)	·				
Highest Habitat Leve.	<u> </u>	- 0	loc/prim	ary	sus	/prima	ary c	loc/s	econdar	у [sus/sec	onda	iry (doc/incl	dental	_	sus/inc	dental	N.	one
Functional Points and Sources for documente			1H		Щ.	.9H			.8M		.7	M			3L		<u>, , , , , , , , , , , , , , , , , , , </u>	<u>IL</u>	1	ol.
14B. Habitat for plant I. AA is Documented Primary or critical Secondary habitat Incidental habitat (No usable habitat	l (D) o habita (list s list sp	r Suspe t (lis t s p species) pecies)	cled (S) pecles)	to o	D S D S	(circle	one b	sed ci(on defir	itions	Contain	ed Ir	Cagle	:(anoik	<u> 3 00</u>		sted in1 હ આવ ૧૮૯૮૯		·	fictions
li. Rating (use the con	clusio	ns from	above	and	the ma	trix be	elow to	amiv	e at [clre	cle] the	e functio	onai	points a	ınd rati	ng)					
Highest Habitat Level		do	c/prima	ry_	sus	/prima	ry	doc/	seconda	ary	sus/se	cond	ary	doc/in	cidenta		sus/in	cidenta	<u> </u>	None
\$1 Species: Functional Points and	Rating	g	1H			.8H			.7M			6M			.2L			.1L		0L
S2 and S3 Species: Functional Points and Sources for documented			.9H			.7M			.6M			5M			.2l.			.1L		OL.
observations of abu- abundant wildlife si, presence of extrem interviews with loca Moderate (based on an observations of sca common occurrence adequate adjacent to interviews with local II. Wildlife habitat featur For class cover to be con percent composition of the	gn sucely lim t biolo y of th ttered e of wi uplance I biolog res (M asidere ie AA	ch as scaling hat gists with the following side of the following food scaling side of the food scaling food scaling food evenly (see #10 (see #10)	at, track bitat fea h knowl ing [che groups in such burces h knowl from top y distrib)). Abb.	ck]): or in as s edge to b uted revia	est structures not average of the dividual cat, trace of the collom, the metions for	ctures vailable AA is or recks, ne AA circle ost an	elativelest slru approp	y few priate preventer d	s, etc. rounding r species s, game AA attri rations	area s durin e trails butes egetate are as	g peak, etc.	itle to a period ix to a ses restricted ix to	o no wi e adjac iews wi ods arrive a nust be P = per	Idlife si ent upl th loca t rating within manen	gn and foc I blolog . Struc 20% of Vperen	od so ists lura	t divers	owledge	of the	aAA a
seasonal/intermittent; T/E	= ten	nporary/	epheme	eral;	and A =	abse	ent [see	Inst	ructions	for fur	ther de	finitio	ns of t	nese te	ms])		·			
Structural diversity (see #13)				Hi	gh].			Mod	erate				1 .	Low		
Class cover distribution (all vegetated classes)		Eve	n			Une	ven			Eve	en			Unev	en			Ever		
Duration of surface water in ≥10% of AA	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	Α	P/P	S/I	T/E	Α	P/P	S/I	T/E	Α
Low disturbance at AA /see #12i)	E	E	E	н	E	Ε	Н	Н	E	н	Н	М	E	н	M	М	E	н	M	М
Moderate disturbance at AA (see #12i)	Н	Н	Н	н	н	Н	Н	М	Н	Н	М	М	H	М	М	L	Н	М	L	L
High disturbance at AA see #12i)	М	М	М	L	М	М	L	L	М	М	L	L	М	L	L.	L	(L)	L	L	L
II. Rating (use the conc	lusion	s from i	and fi al	bove	and th	e mat	rix belo	w to	arrive a	t [circle	e] the fu	metic	onal pol	ints and	i rating)				
ëvidence of wildlife use (i)								V	Vildlife h				ing (ii)			7				
Exceptions Substantial 1F					High Moderate								Low							

.7M

.4M

.6M

14D. General Fish Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" such that the AA could be used by fish (i.e., fish use is precluded by perched culvert or other barrier, etc.). If the AA is not used by fish, fish use is precluded by perched culvert or other barrier, etc.). constraints, or is not desired from a management perspective [such as fish entrapped in a canal], then circle NA here and proceed to 14E.) Type of Fishery: Cold Water (CW) Warm Water (WW) Use the CW or WW guidelines in the user manual to complete the matrix Habitat Quality and Known / Suspected Fish Species in AA (use matrix to arrive at [circle] the functional points and rating) Duration of surface Temporary / Ephemeral Seasonal / Intermittent Permanent / Perennial water in AA Adequate Aquatic hiding / resting / Optimal Poor Poor Adequate Optimal Optimal Adequate Poor escape cover O S Thermal cover optimal / 0 S S 0 S S S 0 0 S 0 O S O suboptima! .3L .31 .5M .4M .7M .6M .5M .4M .7M .6M H8. .7M .6M .5M .9H 1E .9H .8H FWP Tier I fish species .3L .21. .2L FWP Tier II or Native .6M .5M .4M .4M 6M .5M ,5M ЯH .7M 6M .5M .4M .9H .8H .7M Game fish species .1L FWP Tier III or .3L .21. .21. .3L .5M 4M .4M .4M .7M .6M .5M .4M .5M .7M .6M .5M Introduced Game fish .1L .1L FWP Non-Game Tier IV .21. .1L .2L .3L .2L .21 .31. .4M **4M** .4M .3L .4M .5M .5M .5M .4M or No fish species Sources used for identifying fish sp. potentially found in AA: II. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1) a) Is fish use of the AA significantly reduced by a culvert, dike, or other man-made structure or activity or is the waterbody included on the current final MDEQ list of waterbodies in need of TMDL development with listed "Probable Impaired Uses" including cold or warm water fishery or aquatic life support, or do equalic nuisance plant or animal species (see Appendix E) occur in fish habitat? YN If yes, reduce score in I above by b) Does the AA contain a documented spawning area or other critical habitat feature (i.e., sanctuary pool, upwelling area, etc.- specify in comments) for native fish or introduced game fish? Y N If yes, add 0.1 to the adjusted score in I or IIa above: Fish may be present, but are not desirable. Comments: III. Final Score and Rating: 14E. Flood Attenuation: (Applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, circle NA here and proceed to 14F.) i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating) Moderately entrenched --Entrenched-A, F, G stream Slightly entrenched - C, B stream type types Estimated or Calculated Entrenchment (Rosgen 1994, 1996) D, E stream types 25-75% <25% 75% 25-75% <25% % of flooded wetland classified as forested and/or scrub/shrub 75% 25-75% <25% .6M .4M .3L .2L .8H .7M .6M 1H .9H AA contains no outlet or restricted outlet .2L .1L .4M .9H .7M .6M H8, .5M AA contains unrestricted outlet Entrenchment ratio (ER) estimation - see User's Manual for additional guidance. Entrenchment ratio = (flood-prone width)/(bankfull width) Flood-prone width = estimated horizontal projection of where 2 x maximum bankfull depth elevation intersects the floodplain on each side of the stream. Flood-prone Width Bankfull Width 2 x Bankfull Depth Bankfull Entrenchment ratio Flood-prone Bankfull Depth width (ER) width Entrenched Moderately Entrenched Slightly Entrenched ER = 1.0 - 1.4ER = 1.41 - 2.2 ER = >2.2 G stream type F stream type A stream type B stream type E stream type D stream type C stream type II. Are ≥10 acres of wetland in the AA subject to flooding AND are man-made features which may be significantly damaged by floods located within 0.5 mile downstream of the AA (circle)? Y Comments: 14F. Short and Long Term Surface Water Storage: (Applies to wetlands that flood or pond from overbank or in-channel flow, precipitation, upland surface flow, or groundwater flow. If no wetlands in the AA are subject to flooding or ponding, circle NA here and proceed to 14G.) 1. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; and T/E = temporary/ephemeral [see instructions for further definitions of these terms].) Estimated maximum acre feet of water contained in wetlands ≤1 acre fool 1.1 to 5 acre feet >5 acre feet within the AA that are subject to periodic flooding or ponding S/I TE P/P TIE TIE P/P P/P S/I Duration of surface water at wetlands within the AA 31. ŽĮ. .6M .5M 41/1 .8H 8H Wetlands in AA flood or pond ≥ 5 out of 10 years 111 .31 ŽL

.5M

.7M

.9H

Wetlands in AA flood or pond < 5 out of 10 years

Westland fringe docs and

Comments:

.4M

14G. Sediment/Nutrient/Toxicant Retention and Removal: (Applies to wetlands with potential to receive sediments, nutrients, or toxicants through influx of surface or ground water or direct input. If no wetlands in the AA are subject to such input, circle NA here and proceed to 14H.)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low]) Sediment, nutrient, and toxicant Waterbody on MDEQ list of waterbodies in need of input levels within AA TMDL development for "probable causes" related to AA receives or surrounding land use with potential to sediment, nutrients, or toxicants or AA receives or deliver levels of sediments, nutrients, or compounds surrounding land use with potential to deliver high levels at levels such that other functions are not of sediments, nutrients, or compounds such that other substantially impaired. Minor sedimentation, sources functions are substantially impaired. Major of nutrients or toxicants, or signs of eutrophication sedimentation, sources of nutrients or toxicants, or signs present. of eutrophication present. % cover of wetland vegetation in AA ≥ 70% < 70% < 70% Evidence of flooding / ponding in AA Yes Ñο Yes No Yes No Yes No AA contains no or restricted outlet 1H 8H .7M .5M **6**₩ .3L 2Ĺ AA contains unrestricted outlet .7M .6M .2L 4M .4M .3L .1L

14H Sediment/Shoreline Stabilization: (Applies only If AA occurs on or within the banks or a river, stream or other natural or man-made drainage, or on the shoreline of a standing water body which is subject to wave action. If 14H does not apply, ofrcie NA here and proceed to 14L)

Refine Averting from ton to hoften time the metal below to evide at fairlet the functional mainteend and extra

% Cover of wetland streambank or Duration of surface water adjacent to rooted vegetation							
shoreline by species with stability ratings of ≥6 (see Appendix F).	Permanent / Perennial	Temporary / Ephemeral					
≥ 65%	1H	.9H	.7M				
35-64%	.7M	.6M	.5M				
< 35%	.3L	.2L	1L				
Comments: Wetland dan	to emergent only I	ianks amoved so flam	to day little pad				
14! Production Export/Food Chain Su	are some de se suité : a	iv.	bank stabilization				

14l. Production Export/Food Chain Support:

I. Level of Biological Activity (synthesis of wildlife and fish habitat ratings (circle))

General Fish Habitat	General Wildlife Habitat Rating (14C.iii.)								
Rating (14D.lil.)	E/H	M	L.						
E/H	Н	H	М						
M	Н	М	M						
L	M	M	Ļ						
N/A	, H	М	< L.2						

ii. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Factor A = acreage of vegetated wetland component in the AA; Factor B = level of biological activity rating from above (14l.l.); Factor C = whether or not the AA contains a surface or subsurface outlet; the final three rows pertain to duration of surface water in the AA, where P/P, S/I, and T/E are as previously defined, and A = "absent" [see instructions for further definitions of these terms].)

Α		Vegela	ted com	ponent :				Vegeta	led com	ponent 1	-5 acres	;	Vegetated component <1 acre					
В	H	gh	Mod	erate	L	ow	Н	igh	Mod	erate ·	L	ow ·	Н	igh	Mod	erate	Lo	W
C	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
P/P	1H	.7M	.8H	.5M	.6M	.4M	.9H	.6M	.7M	.4M	.5M	.3L.	H8.	.6M	.6M	.4M	.3L)	.2L
S/I	.9H	.6M	,7M	.4M	.5M	.3L	.8H	.5M	.6M	.3L	.4M	.2L	.7M	.5M	.5M	.3L	.3L	.2L
T/E/ A	.8H	.5M	.6M	.3L	.4M	.2L	.7M	.4M	.5M	.2L	.3L	.1L	.6M	.4M	.4M	.2L	.2L	.1L

III. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1.) Vegetated Uplan	d Buffer (VUB): Area with ≥ 30% plant cover.	≤
15% noxious weed or ANVS cover, and that is not subjected to periodic mechanical mowing or clearing	(unless for Weed control).	
a) Is there an average ≥ 50 foot-wide vegetated upland buffer around ≥ 75% of the AA circumference?	Y (N) If yes, add 0.1 to the score in li	ŗ
above and adjust rating accordingly:	and the second	

iv. Final Score and Rating:	Comments
-----------------------------	----------

14J: Groundwater Discharge/Recharge: (check the appropriate indicators in I & ii below)

	I. Discharge indicators The AA is a slope wetland Springs or seeps are known or observed Vegetation growing during dormant season/drought Wetland occurs at the toe of a natural slope Seeps are present at the wetland edge AA permanently flooded during drought periods Wetland contains an outlet, but no infet	F	l. Recharge indicators Permeable substrate present without underlying impeding layer Vetland contains inlet but no outlet Itream is a known 'losing' stream; discharge volume decreases Pither:	~
Other:	 Shallow water table and the site is saturated to the surface Other:			

III. Rating (use the information from i	and it above a	Duration of	saturation at	AA Wetian	ds <u>FROM GF</u>	ROUNDWATER	3		
	ļ	DISCHAR				ARGING THE			•
0.11	<u> </u>	D/D		NDWATER	SYSTEM T	None			
Criteria		P/P	S/						
Groundwater Discharge or Recharge Insufficient Data/Information	₽	1H	.71	n j N/A	.4M	(1 <u>L</u>			
					1 1	1			
Comments: Armored dr 14K. Uniqueness:	arrage	coria	provid	ec lid	He re	·charge.			
i. Rating (working from top to bottom,	use the matri	x below to ar	rive at [circle]	the function	al points and	rating) eviously cited	1		,
	AA contains	s fen, bog, wa	arm springs		s and structu		AA do	es not contain	n previously
Replacement potential		e (>80 yr-old)	, , ,		s high or cont		cited ra	are types or a	ssociations
, topico time processing		plant associ		associa	tion listed as	"S2" by the	and st	ructural diver	
	as "S	1" by the MT	NHP		MTNHP			low-moder	
Estimated relative abundance (#11)	rare	common	abundant	rare	common	abundant	rare	, common	
Low disturbance at AA (#12i)	1H	He.	.8H	.8H	.6M	.5M	.5M	.4M	.3L
Moderate disturbance at AA (#12i)	.9H	.8H	.7M	.7M	.5M	,4M	.4M	3]_	,2L
High disturbance at AA (#12i)	.8H	.7M	.6M	.6M	.4M	.3L	.3L	(.2L_)	.1L
4L. Recreation/Education Potential: is the AA a known or potential rec./ overall summary and rating pag. Check categories that apply to the	fed. site: (circl e)	e) Y N (if	'Yes' continue	with the ev Consump	aluation; If 'N	o' then circle N			to the
 Mandles of frame along the about the last description. 						•			
	ve at [circle] th	ne functional	points and rat	ing)				····	
Known or Potential Recreation or Educa	ve at [circle] the	ne functional	points and rat	ing)		Know	ın Po	otential	
Known or Potential Recreation or Education or Education or Potential Recreation or Education or Public easement	ve at [circle] th ation Area t with genera	ne functional	points and rat	ing)		Know .2H	n Po	otential	
iii. Rating (use the matrix below to arrive the matrix below to a matrix below the matrix below to a matrix below to a matrix below the matrix below to a matrix below the matrix below to a mat	ve at [circle] the ation Area t with general c access (no	l public acce	points and rat ess (no perm required)	ing) Ission requ	Ired)	Know .2H .151	n Po	otential .15H .1M	
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FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #(S): Westland C >

				and Wetl	and AD
Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: (Actual Points x Estimated AA Acreage)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	MA	NA	1		
B. MT Natural Heritage Program Species Habitat	1_	0.1	1		
C. General Wildlife Habitat	1_	0.1	1		
D. General Fish Habitat	MA	MR	NA		
E. Flood Attenuation	6	0.1	l		
F. Short and Long Term Surface Water Storage	Na	NA	MA		
G. Sediment/Nutrient/Toxicant Removal	M	0.4	İ	`	A
H. Sediment/Shoreline Stabilization	MA-	WA	NA		
I. Production Export/Food Chain Support	<u>L</u>	0.3	1		<i>A</i>
J. Groundwater Discharge/Recharge	Ł.,	0.1	,L		
K. Uniqueness	L	0.2	1		· ·
L. Recreation/Education Potential (bonus points)	NA	M	NA		
Totals:		1,3	8		· .
Percent of Possible Score	ZI-041.ZM		16,25 %		

	spory I Wetland: (must satisfy one of the following criteria; otherwise go to Category II) Score of 1 functional point for Listed/Proposed Threatened or Endangered Species; or Score of 1 functional point for Uniqueness; or Score of 1 functional point for Flood Attenuation and answer to Question 14E.ii is "yes"; or Percent of possible score > 80% (round to nearest whole #).
Cate	gory II Wetland: (Criteria for Category I not satisfied and meets any one of the following criteria; otherwise go to Category IV) Score of 1 functional point for MT Natural Heritage Program Species Habitat; or Score of .9 or 1 functional point for General Wildlife Habitat; or Score of .9 or 1 functional point for General Fish Habitat; or "High" to "Exceptional" ratings for both General Wildlife Habitat and General Fish/Aquatic Habitat; or Score of .9 functional point for Uniqueness; or Percent of possible score > 65% (round to nearest whole #).
Categ	gory III Wetland: (Criteria for Categories I, II, or IV not satisfied)
Categ	gory IV Wetland: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; otherwise go to pory III) "Low" rating for Uniqueness; and Vegetated wetland component < 1 acre (do not include upland vegetated buffer); and Percent of possible score < 35% (round to nearest whole #).

5	MDT Mon	tana V	Vetl	and Assess	sment	Form (revised March 2	008)
1. Project Name:	Minas I	ZUNDAS	. 5	2, M	IDT Projec	ot#: 56(55)	Control #: 4199 .
3. Evaluation Date: Mo	8 Day 9	_Yr. <u>_201</u>	4.	Evaluator(s):(B.Ra	ot #: 56 (55)	: Wetland D
6. Wetland Location(s): i	l. Legal: T <u>1</u> ng or Milepost	_(N)or S; s:	R <u>∂</u>	e (E) or W; S	11 Sond	15 m or S; R EC	or W; S;
iii. Watershed:	00700	<u>יי</u>	Wat	tershed Name, Co	ounty:	Upper Yellows don't Po	onpens Pillar
7. a. Evaluating Agency b. Purpose of Evaluat 1. V Wetlands pote 2. Mitigation we 3. Mitigation we 4. Other	: MD ion: entially affected tlands; pre-con tlands; post-con	by MDT struction nstruction	proje	8. Wetland s ct 9. Assessm see instruction	size: (total ent area (ons on det	(visually es (measured,	timated) .e.g. by GPS [if applies])
10. Classification of We	tland and Aqu				T	Abbreviations: (see manual i	for definitions)
HGM Class (Brinson)	Class (Cowardin)	Modifier (Coward	din)	Water Regime	% of A.A	Mineral Soil Flats (MSF), Orga	Depressional (D), Slope (S), anic Soil Flats (OSF), Lacustrine
K	EM	<u>A</u>		TE	100	Fringe (LF); Cowardin Classes: Rock Bot bottom (UB), Aquatic Bed (AB Moss-lichen Wetland (ML), Er Shrub Wetland (SS), Forested	i), Unconsolidated Shore (US), nergent Wetland (EM), Scrub-
						Modifiers: Excavated (E), Imp Drained (PD), Farmed (F), Art	oounded (I), Diked (D), Partly ificial (A)
						Water Regimes: Permanent / Intermittent (SI), Temporary /	Ephemeral (TE)
11. Estimated relative ab (Circle one)	undance: (of s Unknown	similarly c	lassif	ied sites within the Rare	same Ma	jor Montana Watershed Basin, see d Common	lefinitions) Abundant
12. General condition of i. Disturbance: (use	AA: matrix below t nce vegetation	o determi	ne (ci	ircle] appropriate r	esponse	see instructions for Montana-listed (noxious weed and aquatic
Jidiou	1100 10 30 10 110 11					nant conditions adjacent to (within 50	
Conditions	vithin AA		is no other road	aged in predominanily not grazed, hayed, logged, wise converted; does not go buildings; and noxic sor buildings; and noxic sover is ≤15%.	, or ot contain	Lend not cultivated, but may be moderately grazed or hayed or selectively logged; or has been subject to minor clearing; contains few roads or buildings; noxious weed or ANVS cover is ≤30%.	Land cultivated or heavily grazed or logged; subject to substantial fill placement, grading, clearing, or hydrological alteration; high road or building density, or noxious weed or ANVS cover is >30%.
AA occurs and is managed in pred- grazed, hayed, logged, or otherwis- roads or occupied buildings; and no \$15%.	e converted; does n	ot contain	low	disturbance		low disturbance	moderate disturbance
AA not cultivated, but may be mod- selectively logged; or has been sub- clearing, fill placement, or hydrolog roads or buildings; noxious weed o	yject to relatively mir rical alteration; confe	nor sins few	mod	derate disturbance	•	moderate disturbance	high disturbance
AA cultivated or heavily grazed or is substantial fill placement, gracing, atteration; high road or building de ANVS cover is >30%.	ogged; subject to re clearing, or hydrolog	latively pical	higł	n disturbance		high disturbance	high disturbance
Comments: (types o	f disturbance, i	ntensity, s	seaso	n, etc.): Och	inagad	ilch in cultivated the	eld
II. Prominent noxiou	ıs, aquatlc nul	sance, &	othe	r exotic vegetatic	on species	" need canony grass	
iii. Provide brief des	criptive sumn	ary of A	A and	l surrounding lan	id use/hab		

13. Structural Diversity: (based on number of "Cowardin" vegeta Existing # of "Cowardin" Vegetated Classes in AA	Initial Rating	Is current management existence of additions	t preventing (passive)	Modified Rating
≥3 (or 2 if 1 is forested) classes	H	Î NA	NA NA	NA
2 (or 1 If forested) classes	М	NA	NA NA	NA
1 class, but not a monoculture	M	←NO	YES→	<u> </u>
1 class, monoculture (1 species comprises ≥90% of total cover)	(L)	NA	NA	NA

Comments:

SECTION PERTAINING to FUNCTIONS & VALUES ASSESSMENT

14A. Habitat for Feder i. AA is Documented Primary or critical Secondary habitat Incidental habitat No usable habitat	d (D) or habitat (t (list sp (list spe	Suspe (list sp ecles)	cted (S pecies)) to c									n instruc	ctions):	······································					
II. Rating (use the cor	nclusion	s from	iabove	and	the ma	atrix be	low to	arriv	e at [cir	cle] th	e functio	nai	points a	and rati	ng)					
Highest Habitat Level		d	oc/prim	ary	sus	primar	y do	c/se	condar	/ 5	sus/secondary		ry d	doc/incidental			sus/inci	dental	No	me_
Functional Points and			1H		<u> </u>	.9H			8M		.7٨	Λ		.3	L		.1	L		oL_)
14B. Habitat for plant I. AA is Documented Primary or critical I Secondary habitat Incidental habitat (i	or anim (D) or S nabitat ((list spe	als ra Susper list sp	ted S1, cled (S) ecles)	S2, c	ır S3 b	y the l					containe	ed in		tions):		-	nted in10		ve)	SOM
No usable habitat	_1!	£	4 . %		\$ 	4.661		• .				,	. ,	, ,	,				() a d	٤.
ii. Rating (use the con Highest Habitat Level	ciusions		c/prima		1	trix bel /primar			econda		sus/sec				ng) cidental		sus/in(identa		lone
S1 Species: Functional Points and	Rating		1H			.8H			.7M		.6	М			.2L			1L		OL.
S2 and S3 Species: Functional Points and	Rating		.9Н			.7M			.6M		.5 (CVV)	М			2L	-		1L)	OL.
14C. General Wildlife I I. Evidence of overall v Substantial (based on a observations of abu abundant wildlife signs presence of extreminterviews with local	wildlife any of the and ant want want and and such ely limiti	use in ne follo vildlife as sca ng hal	the AA wing [c #s or hi at, track bitat fea	heck) gh sp s, ne: tures): ecies st strue not av	diversi clures, railable	ly (durii game i	ng a Irails	ny perio	d) ·	Minin Vie Viit	nal ew o tle to	(based r no wil o no wil e adjac	on any dlife ob Idlife si ent upl	y of the servation	ons o	owing (ci during p ources with kno	eak üs	,	
Moderate (based on an observations of scal common occurrence adequate adjacent to interviews with local	Itered w e of wild upland f	ildlife (life sig ood so	groups In such Jurces	or ind as sc	at, trad	cks, ne						perio	ods							
ii. Wildlife habitat featur For class cover to be con percent composition of th seasonal/intermittent; T/E Structural diversity (see	isidered ie AA (s	eveni ee #10	y distrib)). Abb	uted, reviat	the mions fo	ost and ir surfa	least ce wat	prev er di	alent ve irations	getat are a	ed class s follows	es n : P/	nust be	within manen	20% of Vpereni	eac	h other			
#13)				Hig	h							Mod	erale				ļ	Lov	<i>'</i>	
Class cover distribution (all vegetated classes)	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~													Eve	n					
Duration of surface water in ≥ 10% of AA	P/P	S/I	T/E	Α	P/P	S/I	T/E	A	P/P	S/I	T/E	Α	P/P	S/I	T/E	А	P/P	S/I	T/E	А
Low disturbance at AA (see #12i)	E	E	E	н	Ε	E	Н	Н	E	Н	Н	М	E	Н	М	м	٤	Н	М	М
Moderate disturbance at AA (see #12i)	Н	Н	Н	н	Н	н	Н	М	Н	Н	М	М	н	М	М	L	Н	М	L	L
High disturbance at AA (see #12i)	М	М	М	L	М	М	L	l.	М	М	L	L	М	L	L	L	L.	L		L
lii. Rating (use the conc	lusions	from I	and li a	bove	and th	e matr	ix belov	v to	arrive a	t [circl	le] the fu	nctio	onal poi	ints and	i rating))				

Wildlife habitat features rating (ii)

Moderate

.8H

.2L

High

He.

.7M

.4M

Evidence of wildlife use (i)

Substantial

Comments:

Moderate

Minimai

Exceptional

1E

.9H

.6M

Low

.7M

-31-

14D. General Fish Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" such that the AA could be used by fish [i.e., fish use is precluded by perched culvert or other barrier, etc.]. If the AA is not used by fish, fish use is precluded by perched culvert or other barrier, etc.]. constraints, or is not desired from a management perspective [such as fish entrapped in a canal], then circle NA here and proceed to 14E.) Type of Fishery: Cold Water (CW) Warm Water (WW) Use the CW or WW guidelines in the user manual to complete the matrix Habitat Quality and Known / Suspected Fish Species in AA (use matrix to arrive at [circle] the functional points and rating) Duration of surface Temporary / Ephemeral Permanent / Perennial Seasonal / Intermittent water in AA Adequate Aquatic hiding / resting / Adequate Poor Optimal Poor Optimal Adequate Poor Optimal escape cover Thermal cover optimal / S S 0 S O O 0 S 0 S 0 S O S 0 S O suboptimal .3L .5M .4M JE, .4M .7M .6M .8H .7M ,6M .5M .9H .8H .7M .6M .5M 1E .9H FWP Tier I fish species FWP Tier II or Native .5M .4M JE. .2L .2L .4M .6M .5M ,5M H8. .7M .6M .5M .4M .8H .7M .6M .9H Game fish species FWP Tier III or .3L .2L 21 .11. .3L .5M .4M .6M .5M .4M .4M .5M .4M .7M H8. .7M .6M .5M Introduced Game fish **FWP Non-Game Tier IV** .1L .2L .21. .21. .21. .1L .1L .3L .3L. .3L. .4M 41/1 4M .5M .5M .5M .4M .4M or No fish species Sources used for identifying fish sp. potentially found in AA: ii. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1) a) Is fish use of the AA significantly reduced by a culvert, dike, or other man-made structure or activity or is the waterbody included on the current final MDEQ list of waterbodies in need of TMDL development with listed "Probable Impaired Uses" including cold or warm water fishery or aquatic life support, or do aquatic nuisance plant or animal species (see Appendix E) occur in fish habitat? Y N If yes, reduce score in I above by b) Does the AA contain a documented spawning area or other critical habitat feature (i.e., sanctuary pool, upwelling area, etc.- specify in comments) for native fish or introduced game fish? Y N If yes, add 0.1 to the adjusted score in I or IIa above:___ Comments: iii, Final Score and Rating: ___ 14E. Flood Attenuation: (Applies, only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, circle NA here and proceed to 14F.) i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating) Slightly entrenched - C. Entrenched-A, F, G stream Moderately entrenched -B stream type types D, E stream types Estimated or Calculated Entrenchment (Rosgen 1994, 1996) <25% 75% 25-75% <25% 75% 25-75% 75% 25-75% | <25% % of flooded wetland classified as forested and/or scrub/shrub .2L .5M .4M .3L 1H .9H .6M .8H .7M AA contains no outlet or restricted outlet .6M 4M .3L. .2L He. .8H .5M .7M AA contains unrestricted outlet Entrenchment ratio (ER) estimation - see User's Manual for additional guidance. Entrenchment ratio = (flood-prone width)/(bankfull width) Flood-prone width = estimated horizontal projection of where 2 x maximum bankfull depth elevation intersects the floodplain on each side of the stream. 1,33 Flood-prone Width Bankfull Width 2 x Bankfull Depth Entrenchment ratio Bankfull Flood-prone Bankfuli Depth width width Entrenched Slightly Entrenched Moderately Entrenched ER = 1.41 - 2.2 ER = 1.0 - 1.4 ER = >2.2 G stream type F stream type B stream type A stream type D stream type E stream type C stream type ii. Are ≥10 acres of wetland in the AA subject to flooding AND are man-made features which may be significantly damaged by floods located within 0.5 Comments: mile downstream of the AA (circle)? Y N/

14F. Short and Long Term Surface Water Storage: (Applies to wetlands that flood or pond from overbank or in-channel flow, precipitation, upland surface flow, or groundwater flow. If no wetlands in the AA are subject to flooding or ponding, circle NA here and proceed to 14G.)

I. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; and T/E = temporary/ephemeral [see instructions for further definitions of these terms].

Estimated maximum acre feet of water contained in wetlands		>5 acre fee	i	1.1	to 5 acre fe	et	≤1 acre foot			
within the AA that are subject to periodic flooding or ponding Duration of surface water at wetlands within the AA	P/P	S/I	T/E	P/P	S/I	T/E	P/P	S/I	T/E	
Wetlands in AA flood or pond ≥ 5 out of 10 years	1H	.9H	.8H	<u>,8H</u>	.6M	.5M	.4M	,3L,	(_2L_/	
Wellands in AA flood or pond < 5 out of 10 years	.9H	.8H	.7M	,7M, (.5M	.4M	.3L	اکر	; .:L <u> </u>	

Comments: Uncertain about frequency. Occumend higher.

14G. Sediment/Nutrient/Toxicant Retention and Removal: (Applies to wellands with potential to receive sediments, nutrients, or toxicants through influx of surface or ground water or direct input. If no wellands in the AA are subject to such input, circle NA here and proceed to 14H.)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low]) Sediment, nutrient, and toxicant Waterbody on MDEQ list of waterbodies in need of input levels within AA TMDL development for "probable causes" related to AA receives or surrounding land use with potential to sediment, nutrients, or toxicants or AA receives or deliver levels of sediments, nutrients, or compounds surrounding land use with potential to deliver high levels at levels such that other functions are not of sediments, nutrients, or compounds such that other substantially impaired. Minor sedimentation, sources functions are substantially impaired. Major of nutrients or toxicants, or signs of eutrophication sedimentation, sources of nutrients or toxicants, or signs present. of eutrophication present. % cover of wetland vegetation in AA < 70% ≥ 70% < 70% Evidence of flooding / ponding in AA Yes No Yes No Yes No Yes N٥ AA contains no or restricted outlet 1H .8H .7M .5M .5M .4M .3L .2L AA contains unrestricted outlet .9H 7M Comments:

14H Sediment/Shoreline Stabilization: (Applies only if AA occurs on or within the banks or a river, stream, or other natural or man-made drainage, or on the shoreline of a standing water body which is subject to wave action. If 14H does not apply, circle NA here and proceed to 14L)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)

% Cover of wetland streambank or	Duration	Duration of surface water adjacent to rooted vegetation											
shoreline by species with stability ratings of ≥6 (see Appendix F).	Permanent / Perennial	Seasonal / Intermittent	Temporary / Ephemeral										
≥ 65%	1H	.9H	.7M										
35-64%	.7M	.6M	.5M										
< 35%	.3L	,2է	(.1Ē)										

Comments:

14i. Production Export/Food Chain Support:

I. Level of Biological Activity (synthesis of wildlife and fish habitat ratings [circle])

Genera	al Wildlife Habitat Rating (14C.III.)				
E/H	M	L			
Н	H	М			
Н	М	М			
M	M	L			
Н	М				
	E/H H	E/H M H H H M M M H M			

ii. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Factor A = acreage of vegetated wetland component in the AA; Factor B = level of biological activity rating from above (14i.i.); Factor C = whether or not the AA contains a surface or subsurface outlet; the final three rows pertain to duration of surface water in the AA, where P/P, S/I, and T/E are as previously defined, and A = "absent" [see instructions for further definitions of these terms!)

1000 II	I STI DOLIVI	19 101 101	nici aci	IIIIIIOIIS C	<u>л инезе</u>	tennsj.)												
A		Vegetated component >5 acres				5	Vegetated component 1-5 acres				Vegetated component <1 acre							
В	B High Moderate Low		ow	High Moderate		Lo)WC	High		Moderate		Low						
С	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
P/P	1H	.7M	,8H	.5M	.6M	.4M	.9Н	.6M	.7M	.4M	.5M	.3L	.8H	.6M	.6M	.4M	.3L	.21.
S/I	.9H	.6M	,7M	.4M	.5M	.3L	.8H	.5M	.6M	.3L	.4M	.2L	.7M	.5M	.5M	.3L	.3L	.2L
T/E/	.8H	.5M	.6M	.3L	.4M	.2L	.7M	.4M	.5M	.2L	.3L	.1L	.6M	.4M	.4M	.2L.	(2L)	.1L

<u>A</u>						L										1		
15 a)	. Modified % noxious Is there an	weed or average	·ANVS co e ≥ 50 foo	over, and ot-wide ve	that is	not subje	cted to	periodic	mechan	ical mow	ing or cl	earing (c	unless fo	K-weed (control).	•	,	-
ab	ove and ac	ljust ratii	ng accord	lingly:									<i></i>					
iv.	Final Sco	re and l	Rating: _	<i>a</i>)		Com	ments:											

14J: Groundwater Discharge/Recharge: (check the appropriate indicators in I & ii below)

i. Discharge Indicators The AA is a stope wetland Springs or seeps are known or observed Vegetation growing during dormant season/drought Wetland occurs at the toe of a natural stope Seeps are present at the wetland edge AA permanently flooded during drought periods Wetland contains an outlet, but no inlet Shallow water table and the site is saturated to the surface Other:	ii. Recharge Indicators Permeable substrate present without underlying impeding layer Wetland contains inlet but no outlet Stream is a known 'losing' stream; discharge volume decreases Other:
---	---

III. Rating (use the information from)	and ii above a	nd the fable i	below to arrive	e at [circle] t	he functional	points and ratin	g)		
m. Rating (use the information note)	1	Duration of :	saturation at	AA vyetian	OS FROM GR	CONDANTER			
		DISCHARG	E OR WITH	WATER TH	AT IS RECHA	ARGING THE			
				<u>VDWATER</u>		1 11			
Criteria		P/P	S/I		T	None			
Groundwater Discharge or Recharge	,	1H	7N	,	.4M	1L.			
Insufficient Data/Information				N/A	2				
Comments:			,						
No dado	\								
	`								
14K. Uniqueness:i. Rating (working from top to bottom,	uca the matrix	chelow to an	rive at Inicide)	the function	al points and	rating)			
1. Rating (working from top to bottom,	Use the matrix	C DEION (O all	1	AA does r	ot contain pre	eviously cited			
	AA contains	s fen, bog, wa	arm springs 🖡	rare type	es and structu	ral diversity	AA doe	s not conta	in previously
Replacement potential	or mature	(>80 yr-old)	forested	(#13) i	s high or cont	ains plant	cited ra	re types or	associations
, we are a large and a large a		plant associ		associa	tion listed as '	'S2" by the	andsor	ov-mode	ersity (#13) is
	J	1" by the MT			MTNHP	abundant	rare	common	
Estimated relative abundance (#11)	rare	common	abundant	rare	common .6M	.5M	.5M	,4M	.3L
Low disturbance at AA (#12i)	1H	.9H	.8H .7M	.8H .7M	.5M	.4M	.4M	.3L	.2L
Moderate disturbance at AA (#12i)	.9H .8H	.8H .7M	.7M	.6M	.4M	.3L	.3L	(.2L)	.1L
High disturbance at AA (#12i)	110.	73.141	1 .0,,,		1				
Comments:									
14L. Recreation/Education Potential:	/afforde hone	is" noints if A	A provides re	creation or	education opt	ortunity)			
i. Is the AA a known or potential rec.	(anoitas bond	اما V N (if	'Yes' continue	with the ev	/aluation: if 'N	o' then circle N	A kere a	nd proceed	to the
and and the face and and the state of the st	۱۸۱						-		
II Chack categories that apply to the	e AA: Edu	cational/scie	ntific study;	Consump	otive rec.;	Non-consนัmp	tive rec.;	Other	
iii. Rating (use the matrix below to arri	ive at [circle] th	ne functional	points and rai	ling)					
							Da	tential	
Known or Potential Recreation or Educ	ation Area								
	AMERICAN STREET					Knov			
Public ownership or public easemen	t with genera	I public acc	ess (no perm	ission requ	iired)	.2H		15H	
Driveto ournorchin with general nubi	t with genera	permission	required			,2H .15l	1	15H .1M	
Private ownership with general publi Private or public ownership without	t with genera	permission	required			,2H .15l	1	15H	
Driveto ournorchin with general nubi	t with genera	permission	required			,2H .15l	1	15H .1M	
Private ownership with general publi Private or public ownership without	t with genera	permission	required			,2H .15l	1	15H .1M	
Private ownership with general public Private or public ownership without Comments:	t with genera	permission	required			,2H .15l	1	15H .1M	
Private ownership with general publi Private or public ownership without	t with genera	permission	required			,2H .15l	1	15H .1M	
Private ownership with general public Private or public ownership without Comments:	t with genera	permission	required			,2H .15l	1	15H .1M	
Private ownership with general publi Private or public ownership without Comments: General Site Notes	t with genera	permission	required			,2H .15l	1	15H .1M	
Private ownership with general publi Private or public ownership without Comments: General Site Notes	t with genera	permission	required			,2H .15l	1	15H .1M	
Private ownership with general publi Private or public ownership without Comments: General Site Notes	t with genera	permission	required			,2H .15l	1	15H .1M	
Private ownership with general publi Private or public ownership without Comments: General Site Notes	t with genera	permission	required			,2H .15l	1	15H .1M	
Private ownership with general publi Private or public ownership without Comments: General Site Notes	t with genera	permission	required			,2H .15l	1	15H .1M	
Private ownership with general publi Private or public ownership without Comments: General Site Notes	t with genera	permission	required			,2H .15l	1	15H .1M	
Private ownership with general publi Private or public ownership without Comments: General Site Notes	t with genera	permission	required			,2H .15l	1	15H .1M	
Private ownership with general publi Private or public ownership without Comments: General Site Notes	t with genera	permission	required			,2H .15l	1	15H .1M	
Private ownership with general publi Private or public ownership without Comments: General Site Notes	t with genera	permission	required			,2H .15l	1	15H .1M	
Private ownership with general publi Private or public ownership without Comments: General Site Notes	t with genera	permission	required			,2H .15l	1	15H .1M	
Private ownership with general publi Private or public ownership without Comments: General Site Notes	t with genera	permission	required			,2H .15l	1	15H .1M	
Private ownership with general publi Private or public ownership without Comments: General Site Notes	t with genera	permission	required			,2H .15l	1	15H .1M	
Private ownership with general publi Private or public ownership without Comments: General Site Notes	t with genera	permission	required			,2H .15l	1	15H .1M	
Private ownership with general publi Private or public ownership without Comments: General Site Notes	t with genera	permission	required			,2H .15l	1	15H .1M	
Private ownership with general publi Private or public ownership without Comments: General Site Notes	t with genera	permission	required			,2H .15l	1	15H .1M	
Private ownership with general publi Private or public ownership without Comments: General Site Notes	t with genera	permission	required			,2H .15l	1	15H .1M	
Private ownership with general publi Private or public ownership without Comments: General Site Notes	t with genera	permission	required			,2H .15l	1	15H .1M	
Private ownership with general publi Private or public ownership without Comments: General Site Notes	t with genera	permission	required			,2H .15l	1	15H .1M	
Private ownership with general publi Private or public ownership without Comments: General Site Notes	t with genera	permission	required			,2H .15l	1	15H .1M	
Private ownership with general publi Private or public ownership without Comments: General Site Notes	t with genera	permission	required			,2H .15l	1	15H .1M	
Private ownership with general publi Private or public ownership without Comments: General Site Notes	t with genera	permission	required			,2H .15l	1	15H .1M	
Private ownership with general publi Private or public ownership without Comments: General Site Notes	t with genera	permission	required			,2H .15l	1	15H .1M	

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westland Units

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: (Actual Points x Estimated AA Acreage)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	12/1	10	1		
B. MT Natural Heritage Program Species Habitat	1	0.1	1		
C. General Wildlife Habitat	1	0-1	1		
D. General Fish Habitat	NA	NA	NA		
E. Flood Attenuation	1	0.2	(
F. Short and Long Term Surface Water Storage	4	0,2			
G. Sediment/Nutrient/Toxicant Removal	M	0,5	4		
H. Sediment/Shoreline Stabilization	L	0.1	1	·	
Production Export/Food Chain Support	<u>L</u>	0.2	11		
J. Groundwater Discharge/Recharge	NA	NA	NA		
K. Uniqueness	<u>L</u>	0.2	11		
L. Recreation/Education Potential (bonus points)	NA	NA	NA		wyd (dyddiglig i'd felin i'r rin i'r rae ar ar ar ar ar ar ar ar ar ar ar ar ar
Totals:		1.5	9	•	·
Percent of Possible Score			16,6 %		

Category I Wetland: (must satisfy one of the following criteria; otherwise go to Category II) Score of 1 functional point for Listed/Proposed Threatened or Endangered Species; or Score of 1 functional point for Uniqueness; or Score of 1 functional point for Flood Attenuation and answer to Question 14E.ii is "yes"; or Percent of possible score > 80% (round to nearest whole #).
Category II Wetland: (Criteria for Category I not satisfied and meets any one of the following criteria; otherwise go to Category IV) Score of 1 functional point for MT Natural Heritage Program Species Habitat; or Score of .9 or 1 functional point for General Wildlife Habitat; or Score of .9 or 1 functional point for General Fish Habitat; or "High" to "Exceptional" ratings for both General Wildlife Habitat and General Fish/Aquatic Habitat; or Score of .9 functional point for Uniqueness; or Percent of possible score > 65% (round to nearest whole #).
Category III Wetland: (Criteria for Categories I, II, or IV not satisfied)
Category IV Wetland: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; otherwise go to Category III) "Low" rating for Uniqueness; and Végetated wetland component < 1 acre (do not include upland vegetated buffer); and Percent of possible score < 35% (round to nearest whole #).

OVERALL ANALYSIS AREA RATING: (circle appropriate category based on the criteria outlined above)

- 11

			,
			•
			:
			: : :
			:

MDT Montana Wetland Assessment Form (revised 5/25/1999)

1. Project Name: <u>E</u>	Billings Bypass		2. Pro	oject#:	NCPD 56(55)	Cont	rol#: 4199
3. Evaluation Mo.	09 Day 18	Yr. 2007 4.	Evaluator(s): DMKR,	SLPA	5, Wetlands/Sit	e #(s) D9	y density anni se estata estata estata estata estata estata estata estata estata estata estata estata estata e
6. Wetland Location(s):		•	27 E or W;	17/18	3 T	NorS R	E or W; S
II. Approx. Stationing or	per Yellowstone River – Porr	Coulson Rd.	CDS 90	foronco No	(if applies) 108	*24'16 661"\N	45°50'12 Q12"N
		ipeys Filiai	Gr3 Ne	ierence no	. (II applies) 100	Z4 10.001 VV	43 30 12.312 14
Other Location Informati	45 455 m 1455 b 477 1974 m m m m m m m m m m m m m m m m m m m	& Associates, Inc.	halla/M 8	eize: (tota	l acres)	(visua	ally estimated)
a. Evaluating Agency b. Purpose of Evalua		a 7.0500iateo, inc.	o. Welland	5,20. (1010			sured, e.g. by GPS (if applies)
•	tlands potentially affected by	MDT project	***************************************		2011=10	SON & CO	
0 1500	gation wetlands; pre-constru		9. Assessment area	(AA, tot., a		_()\()_i (visua	ally estimated)
	gation wetlands; post-constr		(see instructions on	•			sured, e.g. by GPS (if applies)
4 Oth	•		,				
10. Classification of	Wetland and Aquatic Ha	bitats in AA (HGM a	according to Brinso	n, firs col.	: USFWS accordi	ng to Coward	in [1979] rem. cols.)
HGM Class	System	Subsystem	Class	٧	Vater Regime	Modifier	% of AA
Depressional	Р		EM	J			100
							8

Abbreviations: System:	Palaustine (P): Subsystem: pone	· Classes · Rock Bottom (i	R8): Unconsolidated Bott	om (UB): Aq	uatic Bed (AB). Unconso	lidated Shore (US	S), Moss-iichen Wetland (ML), Emerge
12. General conditi	d occurs at the bottom of fon of AA: rbance: (use matrix belo						
Conditions with AA					ons adjacent to (wi	thin 500 feet)	of AA
		state; is not grazed	oredominantly natural I, hayed, logged, or Id; does not contain	Land not cultivated, but moderately grazed or hayed or selectively logged; or has been subject to minor cleaning; contains few roads or buildings			cultivated or heavily grazed or d; subject to substantial fill ment, grading, cleaning or llogical alteration, high road or ng density
	in predominantly natural state; is therwise converted; does not uildings		ce		urbance		ferate disturbance
logged; or has been subject	rately grazed or hayed or selectiv to relatively minor clearing; fill alteration; contains few roads or	ely moderate dist	urbance	modera	te disturbance	high	disturbance
AA cultivated or heavily graz substantial fill placement, gr alteration; high road or build	zed or logged; subject to relativel ading, cleaning, or hydrological ling density	v high disturban	ice	high dis	turbance	high	disturbance
Comments: (types of	f disturbance, intensity, s	eason, etc.): Mo	oderately grazed, re	gulated h	ydrology.		
ii. Prominent weed	ty, alien, and introduced	species (including ti	hose not domestica	ted, feral)): (list)	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
	•						AND THE RESIDENCE OF THE STREET OF THE PROPERTY OF THE PROPERT
iii. Provide brief de	scriptive summary of AA	and surrounding la	nd use/habitat:	Fringe we	etland associated v	with an unnan	ned ditch.
12 Structural Diva	rsity: (based on numbe	r of Cowardia" year	stated classes area	ent (do no	nt include unvegets	leaseel hat	see #10 above)
	ated classes present in A		≥ 3 vegetated cla	sses (or	2 vegetated clarif forested)		\(\leq 1 \) vegetated class
Rating (circle)			≥ 2 if one is fores High	ea)	Modera	nte	Low
Comments:						1	
Commente.			· · · · · · · · · · · · · · · · · · ·				

SECTION PERTAINING TO FUNCTIONS AND VALUES ASSESSMENT

14	a. Habitat for Federally L	isted or Prop	osed Threater	ned or Endangei	red Plants or Ar	imals:		
	AA is Documented (D) or Susp Primary or critical habitat (list s Secondary habitat (list species Incidental habitat (list species) No usable habitat	species) D s) D	stain (circle one b S S S S	ased on definitions	s contained in instru	uctions):		
	Rating (use the conclusions fro his function)	om i above and	the matrix below	to arrive at [circle]	the functional point	s and rating [H ≂ l	nigh; M = moderate	; or L = low) fo
	Highest Habitat Level	doc./primary	sus./primary	doc./secondary	sus./secondary	doc./incidental	sus./incidental	none
	Functional Points and Rating	1 (H)	.9 (H)	,8 (M)	.7 (M)	.5 (L)	.3 (L)	0 (L)
9	ources for documented use (e.	a sheen stions		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·		1	J.,
	B. Habitat for plant or anir	-		Montono Moturo	Haritaga Dagasan	(4.4
i. /	AA is Documented (D) or Susp Primary or critical habitat (list s Secondary habitat (list species) ncidental habitat (list species)	pected (S) to con species) D			-	-	species listed in 1	4A above)
	No usable habitat	Ď	s					
t	Rating (use the conclusions from this function):	**************************************	1	7		T		; or L = low] fo
\vdash	Highest Habitat Level	doc./primary	sus./primary	doc./secondary	sus./secondary	doc./incidental	sus./incidental	none
	Functional Points and Rating	1 (H)	.9 (H)	.8 (M)	.7 (M)	.5 (L)	.3 (L)	0 (L)
S	ources for documented use (e.	g., observations	, records, etc.):					
	C. General Wildlife Habita Evidence of overall wildlife use		substantial, mod	derate, or low base	d on supporting ev	idence);		
Su	bstantial (based on any of the	following [chec	k]:		Low (based or	any of the follow	ing [check]):	
	observations of abundant wi	ildlife #'s or high	species diversity	/ (during any period	d) few or no	wildlife observati	ons during peak us	e periods
	abundant wildlife sign such		, 0	,	X little to n			
	presence of extremely limiting			n surrounding area	PONTAGE .	djacent upland foo		
	interviews with local biologis	sts with knowled	ge of the AA		interview	s with local biolog	ists with knowledge	∍ of the AA
Vю	derate (based on any of the f	ollowing [check]):					
	observations of scattered wi	ldlife groups or i	ndividuals or rela	tively few species	during peak period	S		
	common occurrence of wildl	ife sign such as	scat, tracks, nes	t structures, game	trails, etc.			
	_ adequate adjacent upland fo	ood sources						
	interviews with local biologis	its with knowled	ge of the AA					
le ii	Vildlife habitat features (w bw (L) rating. Structural divers in terms of their percent compo easonal/intermittent; T/E = ten	sity is from #13. sition of the AA	For class cover t (see #10). Abbre	to be considered every eviations for surfact	renly distributed, ve e water durations a	egetated classes regetated classes regetated classes.	nust be within 20% = permanent/pere	of each other
	, , , , , , , , , , , , , , , , , , , ,							

Structural Diversity (see #13)		High						Moderate							Low					
Class cover distribution (all vegetated classes)		E	ven			Un	even			E	ven			Une	even			E	ven	
Duration of surface water in ≥ 10% of AA	P/P	S/I	T/E	A	P/P	S/I	T/E	Α	P/P	S/I	T/E	А	P/P	S/I	T/E	A	P/P	S/I	T/E	А
Low disturbance at AA (see #12i)	E	E	E	H	E	E	E	Н	E	E	E	M	Ε	Н	М	M	E	Н	M	M
Moderate disturbance at AA (see #12i)	Н	Н	Н	Н	Н	Н	Н	М	Н	Н	М	M	H	M	M	L	Н	M	L	Ł
High disturbance at AA (see #12i)	М	M	M	L	M	M	L	L	М	M	L	L	М	L	L	L	L	L	L	L

iii. Rating (use the conclusions from i and ii above and the matrix below to arrive at [circle] the functional points and rating (E = exceptional; H = high; M = moderate or L = low] for this function)

Evidence of wildlife use (i)	Wildlife habitat features rating (ii)							
	Exceptional	High	Moderate	Low				
Substantial	1 (E)	.9 (H)	.8 (H)	.7 (M)				
Moderate	.9 (H)	.7 (M)	.5 (M)	.3 (L)				
Minimal	.6 (M)	.4 (M)	.2 (L)	.1 (L)				

Comments:

- 14D. General Fish/Aquatic Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" such that the AA could be used by fish (i.e., fish use is precluded by perched culvert or other barrier, etc.). If the AA is not or was not historically used by fish due to lack of habitat, excessive gradient, etc., circle NA here and proceed to the next function. If fish use occurs in the AA but is not desired from a resource management perspective (such as fish use within an irrigation canal), then Habitat Quality (i below) should be marked as "low", applied accordingly in ii below, and noted in the comments).
- i. Habitat Quality (circle appropriate AA attributes in matrix to arrive at exception (E), high (H), moderate (M), or low (L) quality rating.

Duration of surface water in AA	Pern	nanent/Per	ennial	Sea	sonal/Interm	nittent	Temporary/Ephemeral		
Cover - % of waterbody in AA containing cover objects such as submerged logs, large rocks & boulders, overhanging banks, floating-leaved vegetation, etc.	> 25%	10-25%	<10%	> 25%	10-25%	<10%	> 25%	10-25%	<10%
Shading - > 75% of streambank or shoreline within AA contains riparian or wetland scrub-shrub or forested communities	E	E	Н	Н	Н	М	М	М	М
Shading - 50 to 75% of streambank or shoreline within AA contains rip or wetland scrub-shrub or forested communities	H	Н	M	M	M	M	М	L	L
Shading - < 50% of streambank or shoreline within AA contains rip or wetland scrub-shrub or forested communities	H	М	M	М	L	L	L	L	L

- ii. Modified Habitat Quality (Circle the appropriate response to the following question. If answer is Y, then reduce rating in i above by one level [E = H, H=M, M=L, L=L]). Is fish use of the AA precluded or significantly reduced by a culvert, dike, or other man-made structure or activity or is the waterbody included on the IDEQ list of waterbodies in need of TMDL development with listed "Probable Impaired Uses" including cold or warm water fishery or aquatic life support?

 Y N Modified habitat quality rating = (circle) E H M L
- iii. Rating (use the conclusions from i and ii above and the matrix below to arrive at (circle) the functional points and rating [E = exceptional, H = high, M = moderate or L = low] for this function).

Types of fish known or		Modified Habitat Quality (ii)							
Types of fish known or suspected within AA	Exceptional	High	Moderate	Low					
Native game fish	1 (E)	.9 (H)	.7 (M)	.5 (M)					
Introduced game fish	.9 (H)	.8 (H)	.6 (M)	.4 (M)					
Non-game fish	.7 (M)	.6 (M)	.5 (M)	.3 (L)					
No fish	.5 (M)	.3 (L)	.2 (L)	.1 (L)					

Comments:

- 14E. Flood Attenuation: (applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, circle NA here and proceed to next function.
- i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate or L = low])

Estimated wetland area in AA subject to periodic flooding		≥ 10 acres		_	< 10 ≥ 2 acre	es		≤ 2 acres	
% of flooded wetland classified as forested, scrub/shrub, or both	75%	25-75%	<25%	75%	25-75%	<25%	75%	25-75%	<25%
AA contains no outlet or restricted outlet	1(H)	.9(H)	.6(M)	.8(H)	.7(H)	.5(M)	.4(M)	.3(L)	.2(L)
AA contains unrestricted outlet	.9(H)	.8(H)	.5(M)	.7(M)	.6(M)	.4(M)	.3(L)	.2(L)	.1(L)

- ii. Are residences, businesses, or other features which may be significantly damaged by floods located within 0.5 miles downstream of the AA (circle)?
- Y N Comments:
- 14F. Short and Long Term Surface Water Storage: (applies to wetlands that flood or pond from overbank or in-channel flow, precipitation, upland surface flow, or groundwater flow. If no wetlands in the AA are subject to flooding or ponding, circle NA here and proceed with the evaluation).
- i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate or L = low] for this function. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I seasonal/intermittent; and T/E temporary ephemeral [see instructions for further definitions of these terms].)

Estimated maximum acre feet of water contained in wetlands within the AA that are subject to periodic flooding or ponding		> 5 acre fee	t	<	5 > 1 acre fe	et		< 1 acre foc	ot
Duration of surface water at wetlands within the AA	P/P	S/I	T/E	P/P	S/I	T/E	P/P	S/I	T/E
Wetlands in AA flood or pond > 5 out of 10 years	1(H)	.9(H)	.6(M)	.8(H)	.6(H)	.5(M)	.4(M)	.3(L)	.2(L)
Wetlands in AA flood or pond < 5 out of 10 years	.9(H)	.8(H)	.7(M)	.7(M)	.5(M)	.4(M)	.3(L)	.2(L)	.1(L)

Comments:

- 14G. Sediment/Nutrient/Toxicant Retention and Removal: (applies to wetlands with potential to receive excess sediments, nutrients, or toxicants through influx of surface or ground water or direct input. If no wetlands in the AA are subject to such input, circle NA here and proceed with the evaluation.)
- i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate or L = low].

Sediment, nutrient, and toxicant input levels within AA	deliver low to or compo substantially	or surrounding o moderate levounds such that r impaired. Mir s or toxicants, opres	els of sediment tother function nor sedimentat or signs of euti	its, nutrients, ns are not ion, sources	Waterbody on MDEQ list of waterbodies in need of TMDL development for "probable causes" related to sediment, nutrients, or toxicants or AA receives or surrounding land use with potential to deliver high levels of sediments, nutrients, or compounds such that other functions are substantially impaired. Major sedimentation, sources of nutrients, or toxicants, or signs of eutrophication present.					
% cover of wetland vegetation in AA	≥ 7	'0%	< 7	'0%	≥ 7	0%	< 7	0%		
Evidence of flooding or ponding in AA	Yes	No	Yes	No	Yes	No	Yes	No		
AA contains no or restricted outlet	1(H)	.8(H)	.7(M)	.5(M)	.5(M)	.4(M)	.3(L)	.2(!)		
AA contains unrestricted outlet	.9(H)	.7(M)	.6(M)	.4(M)	.4(M)	.3(L)	.2(L.)	.1(L)		

Comments:

14H. Sediment/Shoreline Stabilization: (applies only if AA occurs on or within the banks of a river, stream, or other natural or man-made drainage, or on the shoreline of a standing water body which is subject to wave action. If does not apply, circle NA here and proceed to next function.)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating (E = exception, H = high, M = moderate, or L = low] for this function.

Duration of surface water adjacent to rooted vegetation							
permanent/perennial	seasonal/intermittent	temporary/ephemeral					
1(H)	.9(H)	.7(M)					
.7(M)	.6(M)	.5(M)					
.3(L)	.2(L)	.1(L)					
	permanent/perennial 1(H) .7(M)	permanent/perennial seasonal/intermittent 1(H) .9(H) .7(M) .6(M)					

14I. Production Export/Food Chain Support:

Wetland contains an outlet, but no inlet

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating (H = high; M = moderate; or L = Low] for this function. Factor A - acreage of vegetation component in the AA; Factor B = structural diversity rating from #13; Factor C = whether or not the AA contains a surface or subsurface outlet; the final three rows pertain to duration of surface water in the AA, where P/P = permanent/perennial; S/I = seasonal/intermittent; T/E = temporary/ephemeral or absent [see instructions for further definitions of these terms]).

Α		Vegeta	ted com	ponent :	> 5 acre.	S		Vegeta	ed com	oonent 1	1-5 acre	S	I	Vegeta	ted com	ponent ·	< 1 acre	
В	Н	igh	Mod	erate	L	ow	Н	igh	Mod	erate	L	ow	Н	ígh	Mod	erate	Lo	DW C
С	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
P/P	1H	.9H	.9H	.8H	.8H	.7M	.9H	.8H	.8H	.7M	.7M	6M	.7M	.6M	.6M	.4M	.4M	.3L
S/I	.9H	.8H	.8H	.7M	.7M	.6M	.8H	.7M	.7M	.7M	.6M	.5M	.6M	.5M	.5M	.3L	.3L	.2L
T/E/A	.8H	.7M	.7M	.6M	.6M	.5M	.7M	.6M	.6M	.5M	.5M	.4M	.5M	.4M	.4M	.2L	.2L	.1L

_							
•	^	m	m	~	n	ts	

Springs are known or observed Permeable substrate present without underlying impeding layer	i. Discharge Indicators	ii. Recharge Indicators
Vegetation growing during dormant season/drought Wetland occurs at the toe of a natural slope Seeps are present at the wetland edge AA permanently flooded during drought periods Wetland contains inlet but no outlet Other	Vegetation growing during dormant season/drought Wetland occurs at the toe of a natural slope Seeps are present at the wetland edge	***************************************

14J. Groundwater Discharge/Recharge (Check the indicators in i & ii below that apply to the AA)

iii. Rating: Use the information from i and ii above and the table below to arrive at [circle] the functional points and rating (H = high, L = low) for this function.

Criteria	Functional Points and Rating
AA is known Discharge/Recharge area or one or more indicators of D/R present	1 (H)
No Discharge/Recharge indicators are present	.1 (L)
Available Discharge/Recharge information inadequate to rate AA D/R potential	N/A (Unknown)

Comments:

14K. Uniqueness

Other

I. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function.

Replacement potential	or ma	ature (> 80 yr	i, warm springs old) forested ciation listed as MNHP	rare ty (#13		s "S2" by the	AA does not contain previously cited rare types or associations and structural diversity (#13) is low-moderate		
Estimated relative abundance (#11)	Rare	Common	Abundant	Rare	Common	Abundant	Rare	Common	Abundant
Low disturbance at AA (#12i)	1(H)	.9(H)	.8(H)	.8(H)	.6(M)	.5(M)	.5(M)	.4(M)	.3(L)
Moderate disturbance at AA (#12i)	.9(H)	.8(H)	.7(M)	.7(M)	.5(M)	.4(M)	.4(M)	.3(L)	.2(L)
High disturbance at AA (#12i)	.8(H)	.7(M)	.6(M)	.6(M)	.4(M)	.3(L)	.3(L)	.2(L)	.1(L)

C	or	n	m	ei	ni	s	٠

14L.	Red	reation/Education Potential: I. Is AA a known rec./ed. Site: Y N (If yes, rate as [circle] High (1), and go to ii; if No, go to iii)
		Check categories that apply to the AA:Educational/scientific study;Consumptive rec.;Non-consumptive rec.;Other
	111.	Based on the location, diversity, size, and other site attributes, is there strong potential for rec./ed. use? Y N.
		(If Yes, go to II, then proceed to IV; if No, then rate as [circle] Low [0.1])

IV.	Rating (use matrix below	to arrive at [circle] the	functional points and	I rating [H = high, $M = i$	moderate, L = low] fo	or this function.

	Disturbance at AA (#12i)						
Ownership	Low	Moderate	High				
Public ownership	1(H)	.5(M)	.2(L)				
Private ownership	.7(M)	.3(L)	.1(L)				

FUNCTION & VALUE SUMMARY & OVERALL RATING

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units; (Actual Points & Estimated AA Acreage)
A. Listed/Proposed T&E Species Habitat	L	0	1	
B. MT Natural Heritage Program Species Habitat	L	0	1	
C. General Wildlife Habitat	L	0.1	1	
D. General Fish/Aquatic Habitat	NA	NA	NA	
E. Flood Attenuation	L	0.1	1	
F. Short and Long Term Surface Water Storage	L	0.1	1	
G. Sediment/Nutrient/Toxicant Removal	M	0.7	1	
H. Sediment/Shoreline Stabilization	M	0.7	1	
I. Production Export/Food Chain Support	L	0.2	1	
J. Groundwater Discharge/Recharge	NA	NA	NA	
K. Uniqueness	L	0.1	11	
L. Recreation/Education Potential	<u>L</u>	0.1	11	
Totals:	L	2.1	10	=0.21 or 21%

OVERALL ANALYSIS AREA (AA) RATING: (Circle appropriate category based on the criteria outlined below)

11 111



Category I Wetland: (Must satisfy one of the following criteria; if does not meet criteria, go to Category II)

- · Score of 1 functional point for Listed/Proposed Threatened or Endangered Species; or
- · Score of 1 functional point for Uniqueness; or
- Score of 1 functional point for Flood Attenuation and answer to Question 14E.ii is "yes"; or
- Total actual functional points > 80% (round to nearest whole #) of total possible functional points.

Category II Wetland: (Criteria for Category I not satisfied and meets any one of the following criteria; if not satisfied, go to Category IV)

- Score of 1 functional point for Species Rated S1, S2, or S3 by the MT Natural Heritage Program; or
- · Score .9 or 1 functional point for General Wildlife Habitat; or
- Score of .9 or 1 functional point for General Fish/Aquatic Habitat; or
- "High" to "Exceptional" ratings for both General Wildlife Habitat and General Fish/Aquatic Habitat; or
- · Score of .9 functional point for Uniqueness; or
- Total Actual Functional Points > 65% (round to nearest whole #) of total possible functional points.

Category III Wetland: (Criteria for Categories I, II or IV not satisfied)

Category IV Wetland: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; if does not satisfy criteria go to Category III)

- · "Low" rating for Uniqueness; and
- · "Low" rating for Production Export/Food Chain Support; and
- Total actual functional points < 30% (round to nearest whole #) of total possible functional points.

wetland visited 8/26/11

~ 1/2 of wetland filled in. No other changes

Rating unchanged

			•
			:
			:
			:
			•

MDT Montana Wetland Assessment Form (revised March 2008)

	Mars 1	<u> </u>	Commence Commence	2. MD I P	roject	#: <u>56(55</u>))	Control #:	<u> </u>						
1. Project Name:	<u> 7</u> Day <u>/)3</u>	_Yr. <u>201</u> 1	4. Evaluator((s): <u> </u>	tro	5 . Wetlan	ds/Site #(s):	Lands Company							
6. Wetland Location(s): i ii. Approx. Stationin	. Legal: T _ <i>[_</i> g or Milepost	(N) or S; R s:	24 B or W;	s <u>/2</u>		; T N or S	; R E or	W; S	;						
iii. Watershed: <u>/</u>	00700	0_7	Watershed Na	ıme, County	: Up	Mansine C		Pomps:	ys Muy						
b. Purpose of Evaluat 1. Wetlands pote 2. Mitigation wel 3. Mitigation wel	7. a. Evaluating Agency:														
10. Classification of Wetland and Aquatic Habitats in AA Abbreviations: (see manual for definitions)															
HGM Class (Brinson)	Class (Cowardin)	Modifier (Cowardi		3	of AA	HGM Classes: R Mineral Soil Flats	tiverine (R), D	epressional (C	0), Slope (S), OSF), Lacustrine						
0	5 h	10000	1000		0	Fringe (LF); Cowardin Classe	a. Dook Pott	om (OR) Linco	nsolidated						
	FO	EII	J 66		0	hottom (UB), Aqua	atic Bed (AB)	, Unconsolidat	ted Shore (US),						
	55	ÉID	PP		5	Moss-lichen Wetland (S	and (ML), Em S). Forested	ergent Wetlan Wetland (F O)	d (EM), Scrub-						
						Modifiers: Excava	ated (E), Imp	ounded (I), Dik	ed (D), Partly						
	Water Regimes: Permanent / Perennial (PP), Seasonal / Intermittent (SI), Temporary / Ephemeral (TE)														
11. Estimated relative abundance: (of similarly classified sites within the same Major Montana Watershed Basin, see definitions)															
(Circle one)	Unknown	J	Rare		•	Common		Abundant							
l. Disturbance: (use	matrix below	to determin	e [circle] appro		12. General condition of AA: I. Disturbance: (use matrix below to determine [circle] appropriate response – see instructions for Montana-listed noxious weed and aquatic										
	nuisance vegetation species (ANVS) lists) Predominant conditions adjacent to (within 500 feet of) AA														
Conditions within AA is not grazed, he otherwise conve									r heavily grazed or logged;						
Conditions v	within AA		Managed in predor is not grazed, haye otherwise converte roads or buildings; ANVS cover is \$15	minantly natural s ad, logged, er ad; does not conta and noxious wee	state; ain	ant conditions adjacent Land-not cultivated, but may I grazed or hayed or selectively has been subject to minor cle few roads or buildings; noxiou ANVS cover is ≤30%.	be moderately y logged; or earing; contains	Land cultivated o subject to substa clearing, or hydro	r heavily grazed or logged; ntial fill placement, grading, xlogical alteration; high road y; or noxious weed or ANVS						
AA occurs and is managed in pred grazed, hayed, logged, or otherwis roads or occupied buildings; and n	ominantly natural s	tate; is not not contain	is not grazed, haye otherwise converte roads or buildings;	minantly natural s ed, logged, or ed; does not conta and noxious wee 5%.	state; ain ed or	Land-not cultivated, but may la grazed or hayed or selectively has been subject to minor cle few roads or buildings; noxion	be moderately y logged; or earing; contains	Land cultivated o subject to substa clearing, or hydro or building densit	ntial fill placement, grading, vlogical alteration; high road y; or noxious weed or ANVS						
AA occurs and is managed in pred grazed, hayed, logged, or otherwis roads or occupied buildings; and n s15%. AA not cultivated, but may be mod selectively logged; or has been sul clearing, fill placement, or hydrolog	ominantly natural s e converted; does a oxious waed or AN erately grazed or h bject to relatively m ical alteration; conf	tate; is not not contain VS cover is ayed or nor tains few	is not grazed, haye otherwise converte roads or buildings; ANVS cover is ≤15	minantly natural s ad, logged, or ad; does not conta and noxious wee 5%.	state; ain ed or	Land-not cultivated, but may legrazed or hayed or selectively has been subject to minor cle few roads or buildings; noxiot ANVS cover is ≤30%.	be moderately y logged; or saring; contains us weed or	Land cultivated of subject to substanciesting, or hydro or building densitioner building densitions cover is >30%.	ntial fill placement, grading, plogical exteration; high road y; or noxious weed or ANVS						
AA occurs and is managed in pred grazed, hayed, togged, or otherwis roads or occupied buildings; and no stips. AA not cultivated, but may be mod selectively togged; or has been sult clearing, fill placement, or hydrotog roads or buildings; noxious weed of AA cultivated or heavily grazed or substantial fill placement, grading, alteration; high road or building de	ominantly natural s e converted; does a oxious waed or AN erately grazed or th bject to relatively m gical alteration; conf or ANVS cover-is = 50 orged; subject to r clearing, or hydrolo	tate; is not not contain VS cover is ayed or nor ains few 1984	is not grazed, haye otherwise converte roads or buildings; ANVS cover is ≤16 low disturband	minantly natural s ad, logged, or ad; does not conte and noxious wee 5%.	state; ain ed or	Land-not cultivated, but may be grazed or hayed or selectively has been subject to minor cle few roads or buildings; noxiou ANVS cover is \$30%.	be moderately y logged; or saring; contains us weed or	Land cultivated o subject to substa cleaning, or hydro or building densit cover is >30%.	ntial fill placement, grading, slogical effectation; high road by; or noxious weed or ANVS sturbance						
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AA occurs and is managed in pred grazed, hayed, togged, or otherwis roads or occupied buildings; and no \$15%. AA not quifficated, but may be mod selectively togged; or has been suit clearing, fili placement, or hydrolog roads or buildings; noxius weed of AA cultivated or heavily grazed or substantial fill placement, grading, alteration; high road or building de ANVS cover is >30%.	ominantly natural s e converted; does in oxious waed or AN erately grazed or the object to relatively migoal alteration; coning nanyos cover-is = 0 to dearing, or hydroic maity; or noxious w if disturbance.	tate; is not not contain VS cover is ayed or lains few 10%. elatively gical eed or intensity. Se	is not grazed, haye otherwise converter roads or buildings; ANVS cover is ≤15 low disturband moderate dist high disturban eason, etc.);	minantly natural s ad, logged, or ad; does not conte and noxious wee s ce	state; ain ed or	Land-not cultivated, but may be grazed or hayed or selectively has been subject to minor dew rows or buildings; noxion ANVS cover is \$30%. Iow disturbance moderate disturbance	be moderately y logged; or varing; contains us weed or	Land cultivated to subject to substa cleaning, or hydro or building densit cover is >30%. moderate dishigh disturba	ntial fill placement, grading, logical attention; high road y; or noxious weed or ANVS sturbance						
AA occurs and is managed in pred grazed, hayed, togged, or otherwis roads or occupied buildings; and no \$15%. AA not quifficated, but may be mod selectively togged; or has been suit clearing, fili placement, or hydrolog roads or buildings; noxius weed of AA cultivated or heavily grazed or substantial fill placement, grading, alteration; high road or building de ANVS cover is >30%.	ominantly natural s e converted; does in oxious waed or AN erately grazed or the object to relatively migoal alteration; coning nanyos cover-is = 0 to dearing, or hydroic maity; or noxious w if disturbance.	tate; is not not contain VS cover is ayed or lains few 10%. elatively gical eed or intensity. Se	is not grazed, haye otherwise converter roads or buildings; ANVS cover is ≤15 low disturband moderate dist high disturban eason, etc.);	minantly natural s ad, logged, or ad; does not conte and noxious wee s ce	state; ain ed or	Land-not cultivated, but may be grazed or hayed or selectively has been subject to minor dew rows or buildings; noxion ANVS cover is \$30%. Iow disturbance moderate disturbance	be moderately y logged; or varing; contains us weed or	Land cultivated to subject to substa cleaning, or hydro or building densit cover is >30%. moderate dishigh disturba	ntial fill placement, grading, logical attention; high road y; or noxious weed or ANVS sturbance						
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AA occurs and is managed in pred grazed, hayed, togged, or otherwis roads or occupied buildings; and no \$15%. AA not quifficated, but may be mod selectively togged; or has been suit clearing, fili placement, or hydrolog roads or buildings; noxius weed or AA cultivated or heavily grazed or substantial fill placement, grading, alteration; high road or building de ANVS cover is >30%. Comments: (types of il. Provide brief des 13. Structural Diversity;	ominantly natural se converted; does oxicus waed or AN erately grazed or the object to relatively miscal alteration; confur ANVS cover-is = 10 logged; subject to relating, or hydroid maity; or noxicus wif disturbance, us, aquatic nuscriptive summiscriptive summ	tate; is not not contain VS cover is ayed or interesting the seed or interesting the seed or interestity, seed are of "Containing the seed or interestity, s	is not grazed, haye otherwise converte roads or buildings; ANVS cover is ≤15 flow disturband moderate distribution disturband eason, etc.): other exotic vand surround wardin" vegeta	minantly natural s ad, logged, or ad; does not conte and noxious wee s ce	pecles	Land-not cultivated, but may be grazed or hayed or selectively has been subject to minor dew rows or buildings; noxion ANVS cover is \$30%. Iow disturbance moderate disturbance	to emoderately y logged; or paring; contains us weed or service for the contains to the contai	Land cultivated of subject to substact cleaning, or hydro or building densitions and cover is >30%. moderate distribution disturbation	ntial fill placement, grading, logical attention; high road y; or noxious weed or ANVS sturbance						

NA

1 class, monoculture (1 species comprises ≥90% of total cover)

Comments:

1 class, but not a monoculture

SECTION PERTAINING to FUNCTIONS & VALUES ASSESSMENT

AA is Documente Primary or critical Secondary habitat Incidental habitat No usable habitat	d (D) or habitat t (list s p (list sp	Suspe list s ecies	ected (S pecies))) to	Threat contain D S D S D S	(circle 	one ba	ange	on defir	nts or	r Animal containe	s: ed in	instruc	tions):		-				
ii. Rating (use the cor	nclusion	s from	i above	e and	the ma	atrix be	low to	arriv	e at [cire	cle] the	e functio	nal p	ooints a	nd ratii	ng)					
Highest Habitat Level		d	oc/prim	ary	sus	/primai	y do	oc/se	condan	/ s	us/seco	ndar	y d	oc/incid	dental	ş	sus/incid	dental	Noi	ne
Functional Points and			1H			.9H			8M		.7N			.3	L		.1	L	C	DL)
14B. Habitat for plant i. AA is Documented Primary or critical I Secondary habitat Incidental habitat (No usable habitat	or anim I (D) or s habitat ((list sp list spe	nals ra Suspe (list sp ecies) cies)	ted S1, cted (S) eccies)	S2,	or S3 to contain (D S D S D S S	circle	one ba	sed of	on defin	itions o	containe	d in	instruct	tions):		s lis	ted in14	IA abov	/e)	
ii. Rating (use the con	ciusions	1	c/prima			trix be /primai				- 1						Т			Т	
S1 Species:		140	Стрина	<u>ıy</u>	Sus	primai	У	10C/S	econda	ry	sus/sec	onda	ary I	doc/inc	idental	+	sus/inc	idental	- N	one
Functional Points and	Rating		1H			.8H			.7M		.6	М			2L			1L		0L
S2 and S3 Species: Functional Points and Sources for documented			.9H			.7M		The state of the s	.6M		(.51	M			2L			1L		0L
14C. General Wildlife I i. Evidence of overall v observations of abu abundant wildlife si presence of extrem interviews with loca Moderate (based on an observations of sca common occurrence adequate adjacent v interviews with local i. Wildlife habitat feature for class cover to be con percent composition of the	wildlife any of the any of the any such ely limit I biologi y of the attered w e of wild upland f i biologi res (Wo asidered ae AA (s	ne folicy idea in the folicy idea in the folicy in the folicy idea in	wwing [c #s or hi at, track bitat fea h knowl ing [che groups in such burces h knowl from top y distrib)). Abb	heckigh s ss, noture ledge eckij) or in as s edge to to t	cj): pecies est struct s not ave e of the dividual cat, trace of the pottom, I, the mations for	diversictures, railable AA s or recks, ne AA — circle a cost and or surfa	ty (during game ein th	riate prev	ny periority per	d) area during trails, butes getate are as	Minining fe	w or tile to parse tervi	(based no wild no wild no wild adjace ews with ods	on any dlife ob dlife sig ent upla h local rating within	servation and foo biologic Struct 20% of	d so sts v	diversi	eak us	of the	AA
Structural diversity (see #13)				H	gh)_						lode	erate					Low	,	-
Class cover distribution all vegetated classes)		Eve	en			Unev	en)		Eve	en			Unev	en		•	Eve	1	
Ouration of surface vater in ≥ 10% of AA	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	Α
ow disturbance at AA see #12i)	E	E	E	Н	E	E	Н	Н	E	н	н	М	E	н	М	м	E	н	М	м
loderate disturbance t AA (see #12i)	Н	н	н	Н	H	Н	Н	M	Н	н	М	М	Н	М	М	L	н	М	L	L
ligh disturbance at AA	M	M	M	L	M	M	1	1	M	M		1	M	1	1		1		,	

Evidence of wildlife use (i)	Wildlife habitat features rating (ii)									
	Exceptional	High	Moderate	Low						
Substantial	1E	.9H_	.8Н	.7M						
Moderate	.9H	(.7M)	.5M	.3L						
Minimal	.6M	M	.2L	.1L						

14D. General Fish Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" such that the AA could be used by fish [i.e., fish use is precluded by perched culvert or other barrier; etc.]. If the AA is not used by fish, fish use is not restorable due to habitat constraints, or is not desired from a management perspective [such as fish entrapped in a canal], then circle NA here and proceed to 14E.) Warm Water (WW) ____ Use the CW or WW guidelines in the user manual to complete the matrix Type of Fishery: Cold Water (CW)___ Habitat Quality and Known / Suspected Fish Species in AA (use matrix to arrive at [circle] the functional points and rating) Duration of surface Temporary / Ephemeral Seasonal / Intermittent Permanent / Perennial water in AA Adequate Poor Optimal Poor Aquatic hiding / resting / Optimal Adequate Poor Adequate **Optimal** escape cover S 0 0 S S 0 0 Thermal cover optimal / 0 S S S 0 0 suboptimal .5M 4M 31 3L .7M 6M 4M .5M .8H .7M .6M 5M .9H HB. .7M .6M 1E .9H FWP Tier I fish species .3L .2L .2L .6M .5M 4M **FWP Tier II or Native** .4M .4M 5M .5M .5M .8H .7M .6M 6M .9H .8H .7M Game fish species .2L .21 .1L 5M .4M 31 31 **FWP Tier III or** .4M .6M .5M .4M 7M .5M .5M .4M .8H .7M .6M Introduced Game fish .1L .1L .2L .11 .2L .2L .2L **FWP Non-Game Tier IV** 4M 31 .3L 4M 31 4M .4M .4M .5M .5M .5M or No fish species Sources used for identifying fish sp. potentially found in AA: ii. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1) a) Is fish use of the AA significantly reduced by a culvert, dike, or other man-made structure or activity or is the waterbody included on the current final MDEQ list of waterbodies in need of TMDL development with listed "Probable Impaired Uses" including cold or warm water fishery or aquatic life support, or do aquatic nuisance plant or animal species (see **Appendix E**) occur in fish habitat? N If yes, reduce score in I above by b) Does the AA contain a documented spawning area or other critical habitat feature (i.e., sanctuary pool, upwelling area, etc.- specify in comments) for native fish or introduced game fish? Y (N) If yes, add 0.1 to the adjusted score in i or iia above: Comments: grave pit pend iii. Final Score and Rating: 14E. Flood Attenuation: (Applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, circle NA here and proceed to 14F.) i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating) Moderately entrenched -Entrenched-A, F, G stream Slightly entrenched - C, types B stream type D, E stream types Estimated or Calculated Entrenchment (Rosgen 1994, 1996) <25% 25-75% 25-75% <25% 75% <25% % of flooded wetland classified as forested and/or scrub/shrub 75% 25-75% .5M .3L 2L .7M H8. .9H .6M AA contains no outlet or restricted outlet 1H 11 .5M .6M .7M .8H .9H AA contains unrestricted outlet Entrenchment ratio (ER) estimation - see User's Manual for additional guidance. Entrenchment ratio = (flood-prone width)/(bankfull width) Flood-prone width = estimated horizontal projection of where 2 x maximum bankfull depth elevation intersects the floodplain on each side of the stream.

T		-	2 x Bankfull Depth	STEEN BRANCH	- Marine	-prone Width
Flood-prone width	Bankfull Enti- width (ER	renchment ratio	WOOOGE	Bankfull Depth	Bankfull	Width
	Slightly Entrenc ER = >2.2	hed	Moderately Entrenched ER = 1.41 - 2.2		Entrenched ER = 1.0 - 1.4	
C stream type	D stream type	E stream type	B stream type	A stream type	F stream type	G stream type
O stream type						¥

ii. Are ≥10 acres of wetland in the AA subject to flooding AND are man-made features which may be significantly damaged by floods located within 0.5 mile downstream of the AA (circle)? Y N Comments:

14F. Short and Long Term Surface Water Storage: (Applies to wetlands that flood or pond from overbank or in-channel flow, precipitation, upland surface flow, or groundwater flow. If no wetlands in the AA are subject to flooding or ponding, circle NA here and proceed to 14G.)

i. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; and T/E = temporary/ephemeral [see instructions for further definitions of these terms].

of these terms].) Estimated maximum acre feet of water contained in wetlands	>5 acre feet	1.1 to 5 acre feet	≤1 acre foot		
within the AA that are subject to periodic flooding or ponding Duration of surface water at wetlands within the AA	P/P S/I T/E	P/P S/I T/E	P/P S/I T/E		
Wetlands in AA flood or pond ≥ 5 out of 10 years	1H .9H .8H	.8H .6M .5M	(.4M) .3L .2L		
Wetlands in AA flood or pond < 5 out of 10 years	.9H .8H .7M	.7M .5M .4M	300		

controlled water levels by gates

14G. Sediment/Nutrient/Toxicant Retention and Removal: (Applies to wetlands with potential to receive sediments, nutrients, or toxicants through influx of surface or ground water or direct input. If no wetlands in the AA are subject to such input, circle NA here and proceed to 14H.)

Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low]) Sediment, nutrient, and toxicant Waterbody on MDEQ list of waterbodies in need of input levels within AA TMDL development for "probable causes" related to AA receives or surrounding land use with potential to sediment, nutrients, or toxicants or AA receives or deliver levels of sediments, nutrients, or compounds surrounding land use with potential to deliver high levels at levels such that other functions are not of sediments, nutrients, or compounds such that other substantially impaired. Minor sedimentation, sources functions are substantially impaired. Major of nutrients or toxicants, or signs of eutrophication sedimentation, sources of nutrients or toxicants, or signs present. of eutrophication present % cover of wetland vegetation in AA ≥ 70% < 70% ≥ 70% < 70% Evidence of flooding / ponding in AA Yes No Yes No Yes No Yes No AA contains no or restricted outlet 1H .8H .7M .5M .5M .4M .3L .2L AA contains unrestricted outlet .9H .7M .6M 4M 4M 3L 11 Comments: out let controlled gates, pit

14H Sediment/Shoreline Stabilization: (Applies only if AA occurs on or within the banks or a river, stream, or other natural or man-made drainage, or on the shoreline of a standing water body which is subject to wave action. If 14H does not apply, circle NA here and proceed to 14I.)

i. Rating (working from top to bottom, the second streambank or		of surface water adjacent to rooted ve	egetation
shoreline by species with stability ratings of ≥6 (see Appendix F).	Permanent / Perennial	Seasonal / Intermittent	Temporary / Ephemeral
≥ 65%	(1H)	.9H	.7M
35-64%	.7M	.6M	.5M
< 35% Comments: Cattails	.3L	.2L	.1L

14I. Production Export/Food Chain Support:

Other:

i. Level of Biological Activity (synthesis of wildlife and fish habitat ratings [circle])

General Fish Habitat	General Wildlife Habitat Rating (14C.iii.)						
Rating (14D.iii.)	E/H	(M)	Ĺ				
E/H	Н	Н	М				
W	Н	(M)	M				
L	M	M	L				
N/A	Н	M	L				

ii. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Factor A = acreage of vegetated wetland component in the AA; Factor B = level of biological activity rating from above (14I.i.); Factor C = whether or not the AA contains a surface or subsurface outlet; the final three rows pertain to duration of surface water in the AA, where P/P, S/I, and T/E are as previously defined, and A = "absent" [see instructions for further definitions of these terms].

A		Vegeta	ted com		5 acres		T	Magata	tod com		£		_	-		-	-	
В	Hi	gh		erate	1	ow	Н	vegeta igh		ponent 1 erate	T .	ow .	5	vegeta	ated com	_	And in column 2 is not a local division.	
С	Yes	No	Yes	No	Yes	· No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	erate No	Yes	ow No
P/P	1H	.7M	.8H	.5M	.6M	.4M	.9H	.6M	.7M	.4M	.5M	.3L	.8H	.6M	(.6M	.4M	.3L	.2L
S/I	.9H	.6M	.7M	.4M	.5M	.3L	.8H	.5M	.6M	.3L	.4M	.2L	.7M	.5M	.5M	.3L	.3L	.2L
T/E/	.8H	.5M	.6M	.3L	.4M	.2L	.7M	40.0	504			44						
Α		.ow	.Olvi	.5L	.elvi	.ZL	./W	.4M	.5M	.2L	.3L	.1L	.6M	.4M	.4M	.2L	.2L	.1L

iii. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1.) Vegetated Upland Buffer (VUB): Area with ≥ 30% plant cover, ≤ 15% noxious weed or ANVS cover, and that is not subjected to periodic mechanical mowing or clearing (unless for weed control).

a) Is there an average ≥ 50 foot-wide vegetated upland buffer around ≥ 75% of the AA circumference?

Y

N

If yes, add 0.1 to the score in ii above and adjust rating accordingly:_______

above and adjust rating accordingly:		cana a rom or the for circumserence?	i yes, add 0.1 to the
iv. Final Score and Rating: 6 M	Comments:	mowing/haying	
14J. Groundwater Discharge/Recharge: (
i. Discharge Indicators The AA is a slope wetland		ii. Recharge Indicat	tors present without underlying impedin

\angle	Springs or seeps are known or observed Vegetation growing during dormant season/drought Wetland occurs at the toe of a natural slope		Wetland contains inlet but no outlet Stream is a known 'losing' stream; discharge volume decreases Other:
	Seeps are present at the wetland edge	7 1 7	
	AA permanently flooded during drought periods		
	Wetland contains an outlet, but no inlet		
	Shallow water table and the site is actuated to the conference		

Discharge or Recharge Fig. Sig. A.M. J.L. Significant Data/Information omments: (L.) Discharge or Recharge At contains fen, bog, warm springs or nature (-80 y-old) forested westand or plant association less fell year and structural diversity of the structure of the structural diversity of the structure of the structural diversity of the structure of the year of the structural diversity of the structural diversity of the structural diver	i. Rating (use the information from i a		Duration of s	saturation at A	AM VVECIAIN	ATIC DECHA	PRING THE			
roundwater Discharge or Recharge 11H 7M 4M 1.L AKK. Uniqueness: Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating) AA contains fen, bog, warm springs or mature (>60 y+old) forested wetland or plant association listed as 'S1' by the MTN-IP are common abundant r			<u>DISCHARG</u>	SE OR WITH V	VAIEK IH.	<u>ATHO REUNA</u> SYSTEM	NOING ITTE			
AA contains fen, bog, warm springs or mature (>80 y-old) forested wetland or plant association listed as "S1" by the MTNIP (#13) is high or contains plant wetland or plant association listed as "S1" by the MTNIP (#13) is high or contains plant wetland or plant association listed as "S1" by the MTNIP (#13) is high or contains plant wetland or plant association listed as "S1" by the MTNIP (#13) is high or contains plant wetland or plant association listed as "S2" by the MTNIP (#13) is high or contains plant wetland or plant association listed as "S2" by the MTNIP (#13) is high or contains plant wetland or plant association listed as "S2" by the MTNIP (#13) is high or contains plant wetland or plant association listed as "S2" by the MTNIP (#13) is high or contains plant wetland or plant association listed as "S2" by the MTNIP (#13) is high or contains plant wetland or plant association listed as "S2" by the MTNIP (#13) is high or contains plant wetland disturbance at AA (#12)					DVVATER		None			
## A does not contain previous site of plant association isled as "S" by the MTNIP and submance at AA (#12)	ríteria		T. N.							
At Contains fen, bog, warm springs or mature (>80 y-old) forested wetland or plant association listed as 'Sz' by the MTNHP At contains fen, bog, warm springs or mature (>80 y-old) forested wetland or plant association listed as 'Sz' by the MTNHP stimated relative abundance (#11) rare common abundant rare common abundant rare common abundant over disturbance at AA (#12) 1H 9H 8H 8H 8M 5M 5M 5M 4M 3L 2L 1tL ornments: 4L. Recreation/Education Potential: (affords "bonus" points if AA provides recreation or education opportunity) 4L. Recreation/Education Potential: (affords "bonus" points if AA provides recreation or education opportunity) 4L. Recreation/Education Potential: (affords "bonus" points if AA provides recreation or education opportunity) 4L. Recreation/Education Potential: (affords "bonus" points if AA provides recreation or education opportunity) 4L. Recreation/Education Potential: (affords "bonus" points if AA provides recreation or education opportunity) 4L. Recreation/Education Potential: (affords "bonus" points if AA provides recreation or education opportunity) 4L. Recreation/Education Potential: (affords "bonus" points if AA provides recreation or education opportunity) 4L. Recreation/Education Potential rec./ed. site: (circle) Y N (if "Yes' continue with the evaluation; if "No' then circle NA here and proceed to the overall summary and rating page) 1. Check categories that apply to the AA:	roundwater Discharge or Recharge		<u>1H</u>			.4141		_		
AA does not contain previous and functional points and rating) AA does not contain previous and functional points and rating) AA does not contain previous and functional points and rating) AA does not contain previous and functional points and rating) AA does not contain previous and functional points and rating and succurial diversity (#13) is high or contains plant association listed as ST' by the MTNIP **ST' by the MTNIP** **A does not contain previous died rae types or associator associator associator associator associator associator associator associator associator associator associator associator				- 3 - 1	- (NITA	7				
AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland or plant association listed as "S2" by the MTNHP stimated relative abundance (#11) rare common abundant rare common abundan	omments: And Shove in F	ion or his row	W2 1000	S STERN	1					
AA contains fen, bog, warm springs or mature (280 yr-old) forested wetland or plant association listed as "S1" by the MTNHP wetland or plant association listed as "S1" by the MTNHP rare common abundant rare common abund						al nointerands	atina).			
Accontains ten, bog. Warm spinds or mature (-80 y-old) forested wetland or plant association listed as "S2" by the MTNHP as Sociation listed as "S2" by the MTNHP and Sociation listed as "S2" by the MTNHP as Sociation listed as "S2" by the MTNHP as Sociation listed as "S2" by the MTNHP as Sociation listed as "S2" by the MTNHP as Sociation listed as "S2" by the MTNHP as Sociation listed as "S2" by the MTNHP as Sociation listed as "S2" by the MTNHP as Sociation listed as "S2" by the MTNHP as Sociation listed as "S2" by the MTNHP as Sociation listed as "S2" by the MTNHP as Sociation listed as "S2" by the MTN	Rating (working from top to bottom,	use the matri	x below to arr	rive at [circle] t						o proviouel
or mature (>80 yr-old) forested wetland or plant association listed as "\$1" by the MTNHP stimated relative abundance (#11)	j	AA contain	s fen, bog, wa	arm springs	rare type	es and structu	ral diversity	AA do	es not contai	r previous:
wetland or plant association listed as "S1" by the MTNHP low-moderate low-mod	- nlasament notential	or matur	e (>80 vr-old)	forested	(#13) i	s high or cont	ains plant	cited	are types or o	reify (#13) i
as "S1" by the MTNHP distribution of the common abundant rare common abu	epiacement potential	wetland or	r plant associ:	ation listed	alssocia	tion listed as "	S2 by the	anusi	ohom-wol	ate
stimated relative abundance (#11) rare common abundant rare common yabundant rare rare common yabundant rare rare common yabundant rare rare common yabundant rare rare common yabundant rare common yabundant rare rare common yabundant rare rare common yabundant rare rare common yabundant rare rare common yabundant rare common yab		as "S	S1" by the MT	NHP			<u> </u>		T	
ow disturbance at AA (#12i) 1H 9H 8H 7M 7M 5M 4M 4M 3L 2L loderate disturbance at AA (#12i) 9H 8H 7M 6M 6M 6M 4M 3L 3L 3L 1L ligh disturbance at AA (#12i) 8H 7M 6M 6M 6M 4M 3L 3L 3L 1L ligh disturbance at AA (#12i) 8H 7M 6M 6M 6M 4M 3L 3L 3L 1L ligh disturbance at AA (#12i) 8H 7M 6M 6M 6M 4M 3L 3L 3L 1L ligh disturbance at AA (#12i) 8H 7M 6M 6M 6M 4M 3L 3L 3L 3L 1L ligh disturbance at AA (#12i) 8H 7M 6M 6M 6M 4M 3L 3L 3L 3L 3L 3L 3L 3L 3L 3L 3L 3L 3L	stimated relative abundance (#11)				rare	Carried Street, Square, Street, Square	A-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	**********	-	-
Semeral Site Notes Site Not			,9H	.8H	.8H					
Seminate at Marker Seminate	OW disturbance at AA (#12i)	<u> </u>		.7M	.7M			1		
4L. Recreation/Education Potential: (affords "bonus" points if AA provides recreation or education opportunity) Is the AA a known or potential rec./ed. site: (circle) Y N if 'Yes' continue with the evaluation; if 'No' then circle NA here and proceed to the overall summary and rating page) i. Check categories that apply to the AA:Educational/scientific study;Consumptive rec.;Non-consumptive rec.;Other ii. Rating (use the matrix below to arrive at [circle] the functional points and rating) (nown or Potential Recreation or Education Area Public ownership or public easement with general public access (no permission required)	Outrate disturbance at AA (#42i)	•		.6M	.6M	.4M	.3L	.3L	<u> </u>	1 11
St. Recreation/Education Potential: (affords "bonus" points if AA provides recreation or education opportunity) Is the AA a known or potential rec./ed. site: (circle) Y N if 'Yes' continue with the evaluation; if 'No' then circle NA here and proceed to the overall summary and rating page) Check categories that apply to the AA: Educational/scientific study; Consumptive rec.; Non-consumptive rec.; Other I. Rating (use the matrix below to arrive at [circle] the functional points and rating) Inown or Potential Recreation or Education Area Unblic ownership or public easement with general public access (no permission required) Inownership with general public access (no permission required) I. 15H 1M		1 .01,	1							
Private ownership with general public access, (no permission requiring permission for public access Private or public ownership without general public access, or requiring permission for public access One comments: Office considered by the considered of the con	i. Rating (use the matrix below to arr	ive at [circle]	the functional	I points and ra	ting)					
Private or public ownership without general public access, or requiring permission of	ii. Rating (use the matrix below to arr	ive at [circle]	the functional	l points and ra	ting)		Kno	wn F	Potential .15H	
Summary: Gravel pit pands from 1980. Summary: Gravel pit pands from 1980. water same is periodien water disch	i. Rating (use the matrix below to arr known or Potential Recreation or Educ Public ownership or public easemen	cation Area	ral public acc	l points and ra	ling) lission reg	uired)	.2 .15	wn F	Potential .15H .1M	
Seneral Site Notes Summany: Gravel pit pands from 1990 Summany: Gravel pit pands from 1990 wildlife consider by 5 mile creek water sounds by 5 mile creek water sounds by 6 mile creek	ii. Rating (use the matrix below to arr Known or Potential Recreation or Educ Public ownership or public easemen	cation Area	ral public acc	l points and ra	ling) lission reg	uired)	.2 .15	wn F	Potential .15H .1M	
Summary: Gravel pit pands them 1990 Summary: Gravel pit pands them 1990 wildlike consider by 5 mile area to distribute the summer of the sum	ii. Rating (use the matrix below to arr Known or Potential Recreation or Educ Public ownership or public easemer Private ownership with general publ Private or public ownership without	cation Area	ral public acc	l points and ra	ling) lission reg	uired)	.2 .15	wn F	Potential .15H .1M	
Summary: Gravel pit pands them 1990 Summary: Gravel pit pands them 1990 wildlike consider by 5 mile area to distribute the summer of the sum	ii. Rating (use the matrix below to arr Known or Potential Recreation or Educ Public ownership or public easemer Private ownership with general publ Private or public ownership without Comments:	cation Area	ral public acc	l points and ra	ling) lission reg	uired)	.2 .15	wn F	Potential .15H .1M	
Summary: Gravel pit pands from 1900 k wildlife consider of 5 mile area k water some i princation water disch	ii. Rating (use the matrix below to arr Known or Potential Recreation or Educ Public ownership or public easemer Private ownership with general publ Private or public ownership without Comments:	cation Area	ral public acc	l points and ra	ling) lission reg	uired)	.2 .15	wn F	Potential .15H .1M	
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Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: (Actual Points x Estimated AA Acreage)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	1	0	1.		p= 1
B. MT Natural Heritage Program Species Habitat	m	.6	1, \		
C. General Wildlife Habitat	m	7	1 %	i i	X
D. General Fish Habitat	M	5	1.		
E. Flood Attenuation	01	/	NA		
F. Short and Long Term Surface Water Storage	M	. 4	1.		
G. Sediment/Nutrient/Toxicant Removal	1+	8	j.		X
H. Sediment/Shoreline Stabilization	1+	10	-	(file of the state of	X
I. Production Export/Food Chain Support	m	6	1.		
J. Groundwater Discharge/Recharge	the state of	1.795	NA		Χ
K. Uniqueness	m	.5	1		
L. Recreation/Education Potential (bonus points)	4	No.	NA		tampin .
Totals:		5.7	1900		*
Percent of Possible Score			56 %		

Category I Wetland: (must satisfy one of the following criteria; otherwise go to Category II) Score of 1 functional point for Listed/Proposed Threatened or Endangered Species; or Score of 1 functional point for Uniqueness; or Score of 1 functional point for Flood Attenuation and answer to Question 14E.ii is "yes"; or Percent of possible score > 80% (round to nearest whole #).	_
Category II Wetland: (Criteria for Category I not satisfied and meets any one of the following criteria; otherwise go to Category IV) Score of 1 functional point for MT Natural Heritage Program Species Habitat; or Score of .9 or 1 functional point for General Wildlife Habitat; or Score of .9 or 1 functional point for General Fish Habitat; or "High" to "Exceptional" ratings for both General Wildlife Habitat and General Fish/Aquatic Habitat; or Score of .9 functional point for Uniqueness; or Percent of possible score > 65% (round to nearest whole #).	
Category III Wetland: (Criteria for Categories I, II, or IV not satisfied)	
Category IV Wetland: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; otherwise go to Category III) "Low" rating for Uniqueness; and Vegetated wetland component < 1 acre (do not include upland vegetated buffer); and Percent of possible score < 35% (round to nearest whole #).	

OVERALL ANALYSIS AREA RATING: (circle appropriate category based on the criteria outlined above)



IV

		MDT Mont	ana V	Vetland A	ssess	ment	Form (revised	March 20	008)	
	1. Project Name:	illings	BUF	-ass	2. Mi	OT Projec	t#: 56/5	=	Control #:	4199
	3. Evaluation Date: Mo	9 Day 03	Yrado	_	r(s):	54	odis 5. Wetla	nds/Site #(s):	· F ×	<u></u>
	6. Wetland Location(s): ii. Approx. Stationii	i. Legal: T _ ng or Mileposts	N or S;	R <u>26/6</u> or W	;s_12,		; T or :	S; R <u>X</u> E0	rW; S	;
	iii. Watershed: _/	00700	0_7	Watershed N	lame, Co	unty: []	pper Hellow	stone:	Pompey	us Pillar
	3 Mitigation we	tion:	struction estruction	project 9. A	ssessme	ent area (AA): (acres,	_ (measured, <u>/ac</u>	e.g. by GPS [if	
	10. Classification of We	tland and Aqu	atic Habi	tats in AA			Abbroviations	lana manual f	or definitions	
wetland	HGM Class (Brinson)	Class (Cowardin)	Modifier (Coward	din)		% of AA	Abbreviations: HGM Classes: I Mineral Soil Flats	Riverine (R), [Depressional (I	O), Slope (S), OSF), Lacustrine
F	R	FO		PF		10	Fringe (LF);			
		5 m	F	PF	>	180	Cowardin Class bottom (UB), Aqu	es: Rock Bott	om (RB), Unco	onsolidated ted Shore (US)
		40	A-			10	Moss-lichen Wet	and (ML), Em	nergent Wetlan	d (EM), Scrub-
	S	50	-	P	P	20	Shrub Wetland (- 1 (D) D- 11
X	3	1-0		0		0	Modifiers: Excav Drained (PD), Fa	/ated (E), Imp rmed (F), Arti	ounded (I), DII ficial (A)	ked (D), Partiy
		2m		P		80	Water Regimes:			, Seasonal /
		55	5	12	1	20	Intermittent (SI),	Temporary / E	phemeral (TE	
	11. Estimated relative ab	oundance: (of s	imilarly cl	assified sites v	vithin the	same Maj		Basin, see de		
	(Circle one)	Unknown		Rare	е		Common		Abundant	
	12. General condition of	AA:								
	i. Disturbance: (use	matrix below to	determi	ne [circle] appr	opriate re	sponse -	see instructions for Mo	ntana-listed n	oxious weed a	ind aquatic
Γ	Huisa	ince vegetation	species	ANVO) lists)		Predomir	ant conditions adjacen			No. 19
	Conditions v	within AA		Managed in predo is not grazed, hay otherwise convert roads or buildings ANVS cover is ≤1	red, logged, o led; does not s; and noxiou	contain	Land not cultivated, but may grazed or hayed or selective has been subject to minor clew roads or buildings; noxio ANVS cover is ≤30%.	y logged; or earing; contains	subject to substa	r heavily grazed or logged; ntial fill placement, grading, logical alteration; high road y; or noxious weed or ANVS
	AA occurs and is managed in pred grazed, hayed, logged, or otherwis roads or occupied buildings; and n ≤15%.	e converted; does no	ot contain	low disturban	ce		low disturbance		moderate dis	turbance
	AA not cultivated, but may be mod selectively logged; or has been sut clearing, fill placement, or hydrolog roads or buildings; noxious weed o	oject to relatively min pical alteration; conta	or ins few) moderate dis	turbance		moderate disturbance		high disturba	nce
	AA cultivated or heavily grazed or I substantial fill placement, grading, alteration; high road or building de ANVS cover is >30%.	clearing, or hydrolog	ical	high disturba	nce		high disturbance		high disturba	
·	Comments: (types o				edge	. 0	griculural e	recope	some nav	jing a paster
	ii. Prominent noxiou	ıs, aquatic nui	sance, &	other exotic v	regetation	n species	: pod cana	491aso	Siberia	malm
	iii Provide brief des	crintiva summ	ary of A	and surroun	ding land	l use/hat	itat: agricult	rail :	5 mile	creek
	III. Plovide bilet des	criptive summi	aly olive	t and barroun	anig iani		agricult.			
_	13. Structural Diversity:	(based on numb	er of "Co	wardin" veget	1			Name and Address of the Owner, where the Owner, which is the Owner, where the Owner, which is the Owner, where the Owner, which is the Owner, whi		pove)
	Existing # of "Cowardin"	Vegetated Cla	sses in	AA	Initia Batin		s current management existence of additiona	t preventing il vegetated (classes?	Modified Rating
- 1		1 is forested) cl	the second secon		TH) NA			NA	(NA)
t	THE RESERVE THE PERSON NAMED IN COLUMN 2 IS NOT THE OWNER. THE PERSON NAMED IN COLUMN 2 IS NOT THE OWNER.	if forested) clas			W	NA			NA	NA
		ut not a monoc	ASSESSMENT OF THE PARTY NAMED IN		М	4-1	10		YES→	L
	1 class, monoculture (1 sr	pecies comprise	s ≥90% c	of total cover)	L	NA			· NA	NA

Comments:

SECTION PERTAINING to FUNCTIONS & VALUES ASSESSMENT

Primary or critical Secondary habita		(list s	pecies)		D S D S												
Incidental habitat No usable habitat	(list spe				D S S					T:				_			
ii. Rating (use the co	nclusion	s from	i above	e and	the matr	rix below	to arriv	e at [circle] the	functional	points a	and rati	ng)		***		
Highest Habitat Leve	1	d	loc/prim	ary	sus/pi	rimary	doc/se	econdary	sus	s/seconda	ry d	loc/inci	dental		sus/inci	dental	Nor
Functional Points and Sources for documente			1H servatio	ons, i		9H etc):		.8M		.7M		.3	L		.1	L	0
14B. Habitat for plant i. AA is Documented Primary or critical Secondary habitat Incidental habitat (No usable habitat	habitat (l (list spe	Suspec list sp ecies)	cted (S) ecies)	to c	or S3 by ontain (ci D S D S D S	ircle one b	based	atural He on definition	ns co	ontained in	instruc	ncludine tions):	g specie	es lis - -	ted in14	4A abov	e)
ii. Rating (use the con		from	i above	and	the matri	ix below to	o arrive	e at [circle]	the fo	functional _I	oints a	nd ratir	ng)	_			
Highest Habitat Level		do	c/prima	ry	sus/pr	rimary (doc/s	econdary	S	us/second	ary	doc/ind	cidental	4	sus/ind	cidental	No
S1 Species: Functional Points and	Rating	1	1H	. "	3.	8H		.7M		.6M			2L			.1L	
		1						(- 1			
4C. General Wildlife I Evidence of overall v	d use (e. Habitat I wildlife t any of th	Rating use in	j: the AA	(cire	ecords, et	antial, mo						ence):	2L.	follo		1L heckl):	
Functional Points and Gources for documented 4C. General Wildlife I Evidence of overall v Substantial (based on a observations of abundant wildlife sign presence of extreminterviews with local	d use (e.g. Habitat I wildlife to any of the undant we gn such ely limiting I biologis	Rating use in ne follo ildlife i as sca ng hab sts with	ervation the AA wing [ci #s or hi at, track bitat fea h knowl	heck gh s s, ne tures edge	cle substa l): pecies divest structus s not avail	tc.): antial, mo versity (du	uring a	, or low ba		on supporti	(based no wile no wile adiac	ence): on any dlife ob dlife si ent upl	of the servation	ons o	wing [cl during p	6.5	period
Functional Points and Gources for documented 4C. General Wildlife I Evidence of overall v Substantial (based on a observations of abu abundant wildlife sign presence of extrements)	d use (e.s) Habitat I wildlife t any of th undant w gn such ely limitin I biologis y of the 1 ttered wi e of wildl upland fo	Ratinguse in the following habits with following lider signod so	ervation the AA wing [ci #s or hi at, track bitat fea h knowl ng [che groups on such urces	heck gh s s, ne tures edge ck]): or inc	cle substa j): pecies div set structus not avail e of the Audividuals of	tc.): antial, mo versity (du ures, gam ilable in th vA or relative s, nest str	uring a le trails le sum	ny period) t, etc. ounding a	rea	Minimal few o little t spars interv	(based no wile no wile adjac iews wi	ence): on any dlife ob dlife si ent upl	of the servation	ons o	wing [cl during p	heck]): eak use	perioc
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	Exceptional	(High	Moderate	Low
Substantial	1E	.9H	.8H	.7M
Moderate	.9H	7.7M	.5M	.3L
Minimal	.6M	C4M	.2L	.1L
Comments:				

Wildlife habitat features rating (ii)

Evidence of wildlife use (i)

14D. General Fish Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" such that the AA could be used by fish [i.e., fish use is precluded by perched culvert or other barrier, etc.]. If the AA is not used by fish, fish use is not restorable due to habitat constraints, or is not desired from a management perspective [such as fish entrapped in a canal], then circle NA here and proceed to 14E.) Warm Water (WW) ___ Use the CW or WW guidelines in the user manual to complete the matrix Type of Fishery: Cold Water (CW) [/ Habitat Quality and Known / Suspected Fish Species in AA (use matrix to arrive at [circle] the functional points and rating) Duration of surface Temporary / Ephemeral Seasonal / Intermittent Permanent / Perennial water in AA Optimal Adequate Poor Aquatic hiding / resting / Adequate Poor Optimal Adequate Poor Optimal escape cover S 0 S 0 Thermal cover optimal / S 0 0 S 0 S 0 S 0 S suboptimal .3L 3L 4M .6M .5M .7M .6M 5M .4M 7M .814 .7M /6M .5M 91 H8. .9H 1E FWP Tier I fish species 2L 2L .3L .5M .4M 6M **FWP Tier II or Native** .4M .4M 8H .7M .6M 5M .5M .9H .8H 704 .6M .5M Game fish species 21 21 .1L .5M .4M .3L FWP Tier III or .4M .3L .5M 4M .5M .5M .4M .7M .6M .7M .6M HB. Introduced Game fish .11 .1L .11 21 .2L .2L **FWP Non-Game Tier IV** 31 .2L .3L .3L 4M .4M 4M .4M 4M .5M .5M .5M or No fish species Sources used for identifying fish sp. potentially found in AA: ii. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1) a) Is fish use of the AA significantly reduced by a culvert, dike, or other man-made structure or activity or is the waterbody included on the current final MDEQ list of waterbodies in need of TMDL development with listed "Probable Impaired Uses" including cold or warm water fishery or aquatic life support, or do aquatic nuisance plant or animal species (see Appendix E) occur in fish habitat? Y N If yes, reduce score in i above by 0.1: b) Does the AA contain a documented spawning area or other critical habitat feature (i.e., sanctuary pool, upwelling area, etc.- specify in comments) for N If yes, add 0.1 to the adjusted score in i or iia above: native fish or introduced game fish? (V) Comments: iii. Final Score and Rating: 14E. Flood Attenuation: (Applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, circle NA here and proceed to 14F.) i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating) Entrenched-A, F, G stream Moderately entrenched -Slightly entrenched - C. types B stream type D. E stream types Estimated or Calculated Entrenchment (Rosgen 1994, 1996) <25% 25-75% 75% 25-75% 25-75% <25% 75% % of flooded wetland classified as forested and/or scrub/shrub .31 .2L 4M HB. .7M .6M AA contains no outlet or restricted outlet .9H .2L 11 .6M .4M .7M .5M 9H .8H

AA contains unrestricted outlet

Entrenchment ratio (ER) estimation – see User's Manual for additional guidance. Entrenchment ratio = (flood-prone width)/(bankfull width)

Flood-prone width = estimated horizontal projection of where 2 x maximum bankfull depth elevation intersects the floodplain on each side of the stream.

1 1000 1010110	CONTRACTOR OF THE PROPERTY OF	renchment ratio	2 x Bankfull Depth	OTTO KANNA	Bankfull	I-prone Width Width
width	Slightly Entrenc		Moderately Entrenched ER = 1.41 - 2.2	Bankfull Depth	Entrenched ER = 1.0 - 1.4	
C stream type	D stream type	E stream type	B stream type	A stream type	F stream type	G stream type
				Alich may be signific		

II. Are ≥10 acres of wetland in the AA subject to flooding AND are man-made features which may be significantly damaged by floods located within 0.5 mile downstream of the AA (circle)? Y N Comments:

14F. Short and Long Term Surface Water Storage: (Applies to wetlands that flood or pond from overbank or in-channel flow, precipitation, upland surface flow, or groundwater flow. If no wetlands in the AA are subject to flooding or ponding, circle NA here and proceed to 14G.)

i. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; and T/E = temporary/ephemeral [see instructions for further definitions

of these terms].) Estimated maximum acre feet of water contained in wetlands	>5 acre feet	1.1 to 5 acre feet	st age fool
within the AA that are subject to periodic flooding or ponding Duration of surface water at wetlands within the AA	PIP SI TIE	P/P S/I T/E	(PIR) SI T/E
Wetlands in AA flood or pond ≥ 5 out of 10 years	TH SH SH	7M .5M .4M	3 2 1
Wetlands in AA flood or pond < 5 out of 10 years	.511 .110.		

14G. Sediment/Nutrient/Toxicant Retention and Removal: (Applies to wetlands with potential to receive sediments, nutrients, or toxicants through influx of surface or ground water or direct input. If no wetlands in the AA are subject to such input, circle NA here and proceed to 14H.)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low]) Sediment, nutrient, and toxicant Waterbody on MDEQ list of waterbodies in need of input levels within AA TMDL development for "probable causes" related to AA receives or surrounding land use with potential to sediment, nutrients, or toxicants or AA receives or deliver levels of sediments, nutrients, or compounds surrounding land use with potential to deliver high levels at levels such that other functions are not of sediments, nutrients, or compounds such that other substantially impaired. Minor sedimentation, sources functions are substantially impaired. Major of nutrients or toxicants, or signs of eutrophication sedimentation, sources of nutrients or toxicants, or signs present. of eutrophication present. % cover of wetland vegetation in AA € 70%/ ≥ 70% Evidence of flooding / ponding in AA Yes No No Yes Yes No Yes No AA contains no or restricted outlet 1H .8H .7M .5M .5M 4M .3L .2L AA contains unrestricted outlet .9H .7M 4M 4M 3L .2L Comments:

14H Sediment/Shoreline Stabilization: (Applies only if AA occurs on or within the banks or a river, stream, or other natural or man-made drainage, or on the shoreline of a standing water body which is subject to wave action. If 14H does not apply, circle NA here and proceed to 14I.)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)

% Cover of <u>wetland</u> streambank or	Duration of surface water adjacent to rooted vegetation									
shoreline by species with stability ratings of ≥6 (see Appendix F).	Permanent / Perennial Seasonal / Intermittent Temporary / Epheme									
≥ 65%	(1H)	.9Н	.7M							
35-64%	.7M	.6M	.5M							
< 35%	.3L	.2L	.1L							
Comments:										

iv. Final Score and Rating: _

141. Production Export/Food Chain Support:

i. Level of Biological Activity (synthesis of wildlife and fish habitat ratings [circle])

General Fish Habitat	Genera	Wildlife Habitat Ratio	ng (14C.III.)		
Rating (14D.iii.)	E/H	(M)	L		
(EH)	Н	(H)	M		
М	Н	M	M		
L	M	M	L		
N/A	Н	· M	ī		

ii. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Factor A = acreage of vegetated wetland component in the AA; Factor B = level of biological activity rating from above (14l.i.); Factor C = whether or not the AA contains a surface or subsurface outlet; the final three rows pertain to duration of surface water in the AA, where P/P, S/I, and T/E are as previously defined, and A = "absent" [see instructions for further definitions of these terms].)

Vegetated component >5 acres Vegetated component 1-5 acres Vegetated component <1 acre B High Moderate High Moderate High Low Moderate C Yes No Yes No Yes No Yes No Yes No No Yes Yes No Yes No Yes No P/P 1H .7M .8H .5M .6M 4M .9H .6M .7M 4M .5M .3L 8H) .6M .6M .4M .3L .2L SI .9H .6M .7M .4M .5M 3L .8H .5M 6M 3L .4M 21 7M .5M .5M 3L .3L .2L T/E/ .8H .5M .6M .3L .4M .2L .7M .4M .5M .2L .3L .1L .6M .4M .4M .2L .1L

141.	Groundwater Discharge/Recharge: (check the engroprists indicators in i. 8. ii below

Comments:

i. Discharge indicators The AA is a slope wetland Springs or seeps are known or observed Vegetation growing during dormant season/drought Wetland occurs at the toe of a natural slope Seeps are present at the wetland edge AA permanently flooded during drought periods Wetland contains an outlet, but no inlet Shallow water table and the site is saturated to the surface Other:	II. Recharge Indicators
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Duration of saturation at A Wellands EROM RROUNDWATER DISCHARGE OR WITH WATER HALT IS RECHARGING THE ROUNDWATER SYSTEM PIP Side T None Groundwater Discharge or Recharge III 7M AM 1L Recomments: 14K. Uniqueness: L. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and ratings. L. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and ratings. L. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and ratings. L. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and ratings. L. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and ratings. L. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and ratings. L. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and ratings. L. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating plants and a dispersion of the functional points and rating plants and structural dispersion. L. Rating (use the matrix below to arrive at [circle] Y MT Yet continue with the evaluation; if No then circle[AA here and proceed over all summary and rating page) L. Is the AA a known or potential rec.fed. site: (circle) Y MT Yet continue with the evaluation; if No then circle[AA here and proceed over all summary and rating page) L. Is the AA a known or potential rec.fed. site: (circle) Y MT Yet continue with the evaluation; if No then circle[AA here and proceed over all summary and rating page) L. Is the AA a known or potential rec.fed. site: (circle) Y MT Yet continue with the evaluation; if No then circle[AA here and proceed over all summary and rating page) L. Is the AA a known or potential rec.fed. site: (circle) Y MT Yet Continue with the evaluation; if No then circle[AA here and procee	
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igh disturbance at AA (#12i) .8H .7M .6M .6M .4M .3L .3L .2L .2L	.2L.
igh disturbance at AA (#12i) .8H .7M	.1L
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Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: (Actual Points x Estimated AA Acreage)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	l	0	1 `,		
B. MT Natural Heritage Program Species Habitat	M	.6.	1		
C. General Wildlife Habitat	M.		1 `		
D. General Fish Habitat	4-4	8	.		Å
E. Flood Attenuation	M	_5			
F. Short and Long Term Surface Water Storage	m	4	,		
G. Sediment/Nutrient/Toxicant Removal	fort	. 9			A
H. Sediment/Shoreline Stabilization	H-	1.0	1		\$
I. Production Export/Food Chain Support	H	, Z	1,-		\$
J. Groundwater Discharge/Recharge			AIA		
K. Uniqueness	m	. 5-	7		
L. Recreation/Education Potential (bonus points)			NA NA		
Totals:		6,2	1/)		
Percent of Possible Score			67 %		

Category I Wetland: (must satisfy one of the following criteria; otherwise go to Category II) Score of 1 functional point for Listed/Proposed Threatened or Endangered Species; or Score of 1 functional point for Uniqueness; or Score of 1 functional point for Flood Attenuation and answer to Question 14E.ii.is "yes"; or Percent of possible score > 80% (round to nearest whole #).	
Category II Wetland: (Criteria for Category I not satisfied and meets any one of the following criteria; of Score of 1 functional point for MT Natural Heritage Program Species Habitat; or Score of .9 or 1 functional point for General Wildlife Habitat; or Score of .9 or 1 functional point for General Fish Habitat; or "High" to "Exceptional" ratings for both General Wildlife Habitat and General Fish/Aquatic Habitat Score of .9 functional point for Uniqueness; or Percent of possible score > 65% (round to nearest whole #).	
Category III Wetland: (Criteria for Categories I, II, or IV not satisfied)	
Category IV Wetland: (Criteria for Categories I or II are not satisfied and all of the following criteria are Category III) "Low" rating for Uniqueness; and Vegetated wetland component < 1 acre (do not include upland vegetated buffer); and Percent of possible score < 35% (round to nearest whole #).	met; otherwise go to

OVERALL ANALYSIS AREA RATING: (circle appropriate category based on the criteria outlined above)

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IV

MDT Montana Wetland Assessment Form (revised March 2008)

1. Project Name: <u> </u>	ings Bu	<u> </u>	>	2. MDT	Project	(#: <u>58(\$\$)</u>	Control #:_			
3. Evaluation Date: Mo⊊	<u>) </u>	ン _Yr. <u>ス<i>01</i></u>	4. Evaluato	r(s): <u>丿,</u> ⑤	traa	5 . Wetlands/Site #(s): needon	R. AA		
6. Wetland Location(s): ii. Approx. Stationii	i. Legal: T 🚣	Nor S;	R <u>26 _</u> E or W;	s <u>//</u>		;T_LNors;R27@ A: JN	or W; S/_	<u>/</u> ;		
iii. Watershed: /	00700	01	Watershed N	ame, Count	y :4£	oer Sellmostone Pon Wowstone County	ry parazo 8	illan		
	tion:	by MDT	project 9. A	ssessment	area (A	∖A): (acres, <u>∽ ∽ △</u> (vis	, e.g. by GPS [ually estimated	if applies]) i) u GPS (if applies))		
10. Classification of We	tland and Aqu	atic Habi	tats in AA	6 X3. KKC	ing the filter	hec world harrows	and ler	19		
HGM Class (Brinson) Class (Cowardin) Class (Cowardin) Class (Cowardin) Class (Cowardin) Class (Cowardin) Class (Cowardin) Class (Cowardin) Class (Cowardin) Class (Cowardin) Class (Modifier (Cowardin) Class (See manual for definitions) HGM Classes: Riverine (R), Depressional (D), Slope (S), Mineral Soil Flats (MSF), Organic Soil Flats (OSF), Lacustrine Fringe (LF);										
	R Sin A SS A				2"/, 2.	bottom (UB), Aquatic Bed (AE	Classes: Rock Bottom (RB), Unconsolidated), Aquatic Bed (AB), Unconsolidated Shore (US), n Wetland (ML), Emergent Wetland (EM), Scrub-			
\	Si	1<	51		21.	Modifiers: Excavated (E), Im Drained (PD), Farmed (F), Ari		ked (D), Partly		
, 5	2h 2 m	112 4,2,1			21.	Water Regimes: Permanent Intermittent (SI), Temporary /	Perennial (PP	• •		
11. Estimated relative ab	undance: (of s					or Montana Watershed Basin, see		-,		
(Circle one)	Unknown		Rare	•		Common	Abundant)		
						see instructions for Montana-listed		and aquatic		
Conditions v	vithin AA		Managed in predo is not grazed, hay otherwise convert roads or buildings ANVS cover is \$1	minantly natural ed, logged, or ed; does not con ; and noxious we	state; itain	ant conditions adjacent to (within 5) Land not cultivated, but may be moderately grazed or hayed or selectively logged; or has been subject to minor clearing; contains √ew roads or buildings; noxious weed or ANVS cover is ≤30%.	Land cultivated of subject to substa clearing, or hydro	or heavily grazed or logged; antial fill placement, grading, ological alteration; high road ty; or noxious weed or ANVS		
AA occurs and is managed in pred grazed, hayed, logged, or otherwis roads or occupied buildings; and no <15%.	e converted; does n	ot contain	low disturban	ce	,	low disturbance	moderate disturbance			
AA not cultivated, but may be mod selectively logged; or has been sut clearing, fill placement, or hydrolog toads or buildings; noxious weed o	oject to relatively min ical alteration; conta	ior ins few	moderate dist	urbance		moderate disturbance	high disturbance			
AA cultivated or heavily grazed or l substantial fill placement, grading, alteration; high road or building de ANVS cover is >30%.	clearing, or hydrolog nsity; or noxious we	ical ed or	high disturbar		_[_	high disturbance	high disturba	ance		
Comments: (types o	Comments: (types of disturbance, intensity, season, etc.): - heavily have of graded									
						ireedcanary grac	s, Reld	bind weem/		
13. Structural Diversity:	(based on numi	per of "Co	wardin" vegeta			nt [do not include unvegetated class		bove)		
Existing # of "Cowardin"	Vegetated Cla	asses in .	AA	Initial Rating		current management preventing xistence of additional vegetated		Modified Rating		
	1 is forested) c			H	NA		NA NA			
	if forested) clas ut not a monoc			M	NA ←N	<u> </u>	NA YES	(NA)		
1 class, monoculture (1 sc	ecies comprise	s ≥90% d	of total cover)	L	NA		NA	NA NA		
Comments: ARCA	s atten	Wav	1 house	Vd c or	10 Z	2% (wetlands) give ,	4 A and	to extraor of		
All a controls	- 1" + 1 mm		110VA 116	Rate Same	. 11.	And a say the		1 Y (2,11) R NOV.		

SECTION PERTAINING to FUNCTIONS & VALUES ASSESSMENT

AA is Documented Primary or critical h Secondary habitat Incidental habitat (No usable habitat	l (D) or : nabitat ((list sp list spe	Suspe list sp ecies)	cted (S) ecies)	sed to c	Threate ontain (D S D S D S	ened o circle (—	r Enda	ngei sed d	ed Plar on defini	its or	Animals containe	s: d in	instruc	tions):		- -				
ii. Rating (use the con	clusions	from	i above	and	the ma	trix be	low to a	ırrive	at [circ	le] the	e function	nal p	oints a	nd ratir	ng)					
Highest Habitat Level		de	oc/prima	ary	sus/	primar	y do	c/se	condary	sı	us/secor	ndar	y do	oc/incid	lental	s	us/incid	ental	Nor	ne
Functional Points and			1H			.9H			ВМ		7M			.31	~		.1		0	L)
14B. Habitat for plant of i. AA is Documented Primary or critical h Secondary habitat (Incidental habitat (I No usable habitat	or anim (D) or S abitat (l	als rat Suspectist spectos)	ed S1 ,	S2, 6 to co	or S3 b	y the l	Montan one bas	a Na ed o	ntural H n defini	eritag ions c	ge Progr containe	am: d in	(not in	cluding ions):	specie	s list	ted in14	A abov	e)	
ii. Rating (use the cond	clusions	from i	above	and	the mat	rix bel	ow to a	rrive	at [circl	e] the	function	al p	oints ar	nd ratin	g)	······				
Highest Habitat Level		do	c/primar	у	sus/	primar	y d	oc/s	econdar	у	sus/sec	onda	ary	doc/inc	idental		sus/inc	idental	N	one
S1 Species: Functional Points and I	Rating		1H			.8H			.7M		.61	М		••	2L			1L		OL.
S2 and S3 Species: Functional Points and I Sources for documented			.9H			.7M			.6M		.51	М			2L.			1L	(OL.
14C. General Wildlife II. Evidence of overall w Substantial (based on a observations of abu abundant wildlife sig presence of extreme interviews with local Moderate (based on any observations of scal common occurrence	wildlife in any of the indent was such all limited in the index of the index of wild in the i	use in ne follo ildlife : as sca ng hat sts will followi ildlife (life sig	wing [cl #s or high at, track bitat fea h knowled ng [che groups of n such	heck gh si s, ne tures edge ck]): or ind	j): pecies o est struct on not av e of the	diversi ctures, railable AA s or re	ty (during game to the in the latively	ng ar rails surro	ny perion , etc. punding species	d) area durin	Minjn	nal w or tle to arso tervi	(based no wild no wild adjace ews wil	on any dlife ob dlife sig ent upla	servatio yn and foo	ns c d so	wing [ch during p urces vith kno	eak üs	·	
adequate adjacent u interviews with local	ıpland f	ood so	urces																	
ii. Wildlife habitat featur For class cover to be con percent composition of th seasonal/intermittent; T/E	isidered ⊧e AA (s	evenly ee #10	y distrib)). Abbi	uted revia	, the mo	ost and or surfa	d least _l ice wate	preva er du	alent ve Irations	getate are as	ed class s follows	es n : P/l	nust be	within : manent	20% of Vperent	eacl	h other	y is fro in term	m #13. s of the	ir
Structural diversity (see #13)				Hi	gh						(I	vlod	erate			Ţ		Low	i	
Class cover distribution (all vegetated classes)		Eve	n			Unev	ren			Eve	en	•••		Unev	ren)		·	Eve	1	
Duration of surface water in ≥ 10% of AA	P/P	S/I	T/E	A	P/P	S/I	T/E	Α	P/P	S/I	T/E	Α	P/P	SII	T/E	Α	P/P	S/I	T/E	Α
Low disturbance at AA (see #12i)	E	E	Ε	Н	E	E	Н	Н	E	Н	Н	М	E	Н	М	М	E	н	M	м
Moderate disturbance	Н	Н	Н	Н	Н	Н	ы	3,1	LJ	L.	p.a	1		,,	1.5					┢
at AA (see #12i) High disturbance at AA	- ''	• '		''	11	'	Н	М	H	H	M	М	H	×	M	L	Н	М		<u> </u>
nigh disturbance at AA	M	M	8.4	1 . 1	8.4	l sa			1.4	1.4	1 .					, I	١.			F.

III. Rating (use the conclusions from I and II above and the matrix below to arrive at [circle] the functional points and rating)

М

Evidence of wildlife use (i)	Wildlife habitat features rating (ii)									
	Exceptional	High	Moderate	Low						
Substantial	1E	.9H	.8H	.7M						
Moderate	.9H	.7M	.5M	.3L						
Minimal	.6M	.4M	,2L	(11)						

Comments:

(see #12i)

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14D. General Fish Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" such that the AA could be used by fish [i.e., fish use is precluded by perched culvert or other barrier, etc.]. If the AA is not used by fish, fish use is not restorable due to habitat constraints, or is not desired from a management perspective [such as fish entrapped in a canal], then circle NA bere and proceed to 14E.) Type of Fishery: Cold Water (CW) Warm Water (WW) Use the CW or WW guidelines in the user manual to complete the matrix Habitat Quality and Known / Suspected Fish Species in AA (use matrix to arrive at [circle] the functional points and rating) Duration of surface Seasonal / Intermittent Temporary / Ephemeral Permanent / Perennial water in AA Aquatic hiding / resting / Adequate Optimal Adequate Poor Optimal Adequate Poor **Optimal** Poor escape cover Thermal cover optimal / 0 0 S 0 S 0 S 0 S 0 S 0 S 0 S S 0 S suboptimal 1E .9H .8H .7M .6M .5M .9H .8H .7M 6M .5M 4M .7M .6M .5M .4M .3L .3L FWP Tier I fish species **FWP Tier II or Native** .4M .6M .5M .4M .3L .2L .2L .9H .6M .5M .5M .8H 7M 6M 5M 4M .8H .7M Game fish species **FWP Tier III or** .5M .4M .7M .6M .5M .4M .4M .3L .5M .4M .3L .2L .2L .1L .8H 7M .6M .5M Introduced Game fish **FWP Non-Game Tier IV** .3L .4M .4M .3L .3L .2L .2L .2L 21 .1L .1L .1L .5M .5M 4M 4M 4M 5M or No fish species Sources used for identifying fish sp. potentially found in AA: ii. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1) a) Is fish use of the AA significantly reduced by a culvert, dike, or other man-made structure or activity or is the waterbody included on the current final MDEQ list of waterbodies in need of TMDL development with listed "Probable Impaired Uses" including cold or warm water fishery or aquatic life support, or do aquatic nuisance plant or animal species (see Appendix E) occur in fish habitat? Y N If yes, reduce score in i above by b) Does the AA contain a documented spawning area or other critical habitat feature (i.e., sanctuary pool, upwelling area, etc.- specify in comments) for native fish or introduced game fish? Y N If yes, add 0.1 to the adjusted score in i or iia above: iii. Final Score and Rating: Comments: 14E. Flood Attenuation: Applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, circle (NA here and proceed to 14F.) - controlled in ing atten i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating) Slightly entrenched - C, Moderately entrenched -Entrenched-A, F, G stream Estimated or Calculated Entrenchment (Rosgen 1994, 1996) D, E stream types B stream type types 75% 25-75% <25% 75% 25-75% <25% % of flooded wetland classified as forested and/or scrub/shrub 75% 25-75% <25% 1H .9H .6M .8H .7M 5M .31 21 AA contains no outlet or restricted outlet .9H H8. .5M .7M .6M .1L AA contains unrestricted outlet Entrenchment ratio (ER) estimation - see User's Manual for additional guidance. Entrenchment ratio = (flood-prone width)/(bankfull width) Flood-prone width = estimated horizontal projection of where 2 x maximum bankfull depth elevation intersects the floodplain on each side of the stream. Flood-prone Width 2 x Bankfull Depth Entrenchment ratio Flood-prone Bankfull Bankfull Width width width Bankfull Depth Slightly Entrenched **Moderately Entrenched Entrenched** ER = 1.0 - 1.4ER = >2.2 ER = 1.41 - 2.2 A stream type F stream type G stream type D stream type E stream type B stream type C stream type

- ii. Are ≥10 acres of wetland in the AA subject to flooding AND are man-made features which may be significantly damaged by floods located within 0.5 mile downstream of the AA (circle)? Y N Comments:
- 14F. Short and Long Term Surface Water Storage: (Applies to wetlands that flood or pond from overbank or in-channel flow, precipitation, upland surface flow, or groundwater flow. If no wetlands in the AA are subject to flooding or ponding, circle NA here and proceed to 14G.)
- i. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; and T/E = temporary/ephemeral [see instructions for further definitions of these terms].)

Estimated maximum acre feet of water contained in wetlands within the AA that are subject to periodic flooding or ponding		>5 acre fee	et	1.1	to 5 acre	feet	≤1 acre foot			
Duration of surface water at wetlands within the AA	P/P	S/I	T/E	P/P	S/I	T/E	P/P	S/I	T/E	
Wetlands in AA flood or pond ≥ 5 out of 10 years	1H	.9H	.8H	.8H	.6M	.5M	.4M	.3L	.2L	
Wetlands in AA flood or pond < 5 out of 10 years	.9H	.8H	.7M	.7M	.5M	.4M	.3L	.2L	.1L.	

14G. Sediment/Nutrient/Toxicant Retention and Removal: (Applies to wetlands with potential to receive sediments, nutrients, or toxicants through influx of surface or ground water or direct input. If no wetlands in the AA are subject to such input, circle NA here and proceed to 14H.)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low]) Sediment, nutrient, and toxicant Waterbody on MDEQ list of waterbodies in need of input levels within AA TMDL development for "probable causes" related to sediment, nutrients, or toxicants or AA receives or AA receives or surrounding land use with potential to deliver levels of sediments, nutrients, or compounds surrounding land use with potential to deliver high levels at levels such that other functions are not of sediments, nutrients, or compounds such that other substantially impaired. Minor sedimentation, sources functions are substantially impaired. Major of nutrients or toxicants, or signs of eutrophication sedimentation, sources of nutrients or toxicants, or signs present. of eutrophication present. ≥ 70% < 70% % cover of wetland vegetation in AA ≥ 70% < 70% Evidence of flooding / ponding in AA Yes No Yes No Yes No Yes AA contains no or restricted outlet 1H H8. 7M 5M 5M 4M 2L AA contains unrestricted outlet 9H 4M 3L .7M .6M 4M .21 1L

Comments:

14H Sediment/Shoreline Stabilization: (Applies only if AA occurs on or within the banks or a river, stream, or other natural or man-made drainage, or on the shoreline of a standing water body which is subject to wave action. If 14H does not apply, circle **NA** here and proceed to 14L)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)

% Cover of wetland streambank or	Duration	n of surface water adjacent to rooted ve	getation
shoreline by species with stability ratings of ≥6 (see Appendix F).	Permanent / Perennial	Seasonal / Intermittent	Temporary / Ephemeral
€ 65%	1H	(.9H)	.7M
35-64%	.7M	.6M	.5M
< 35%	.3L	.2L.	.1L

Comments:

14I. Production Export/Food Chain Support:

i. Level of Blological Activity (synthesis of wildlife and fish habitat ratings [circle])

General Fish Habitat	General	Wildlife Habitat Rat	ing (14C.lii.)
Rating (14D.iii.)	E/H	M	(L)
E/H	Н	Н	М
M	H	М	М
L	M	М	L .
(N/A)	Н	М	(L)

ii. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Factor A = acreage of vegetated wetland component in the AA; Factor B = level of biological activity rating from above (14i.i.); Factor C = whether or not the AA contains a surface or subsurface outlet; the final three rows pertain to duration of surface water in the AA, where P/P, S/I, and T/E are as previously defined, and A = "absent" [see instructions for further definitions of these terms].)

Α		Vegeta	ted com	ponent >	5 acres	;		Vegetat	ed comp	onent 1	-5 acres			Vegeta	ited com		<1 acre	
В	Hi	gh	Mod	erate	L	ow	H	gh	Mod	erate	Lo	w	Hi	gh	Mod	erate	(Lo	w)
С	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	≅Yes	No
P/P	1H	.7M	.8H	.5M	.6M	.4M	.9H	.6M	.7M	.4M	.5M	.3L	.8H	.6M	.6M	.4M	.3L	.2L
S/I	.9H	.6M	.7M	.4M	.5M	.3L	.8H	.5M	.6M	.3L	.4M	.2L	.7M	.5M	.5M	.3L	(∴3∟.`\	.2L
T/E/	.8H	.5M	.6M	.3L	.4M	.2L	.7M	.4M	.5M	.2L	.3L.	.1L	.6M	.4M	.4M	.2L	.2L	.1L.
A								1										

lii. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1.) Vegetated Upland Buffer (VUB): Area with ≥ 30% plant cover, ≤ 15% noxious weed or ANVS cover, and that is not subjected to periodic mechanical moving or clearing (unless for weed control). a) Is there an average ≥ 50 foot-wide vegetated upland buffer around ≥ 75% of the AA circumference? Y (N) If yes, add 0.1 to the score in ii above and adjust rating accordingly:_ Comments: buffer - heavily moved iv. Final Score and Rating: 14J. Groundwater Discharge/Recharge: (check the appropriate indicators in i & ii below) i. Discharge indicators ii. Recharge Indicators The AA is a slope wetland Permeable substrate present without underlying impeding layer Springs or seeps are known or observed Wetland contains inlet but no outlet Vegetation growing during dormant season/drought Stream is a known 'losing' stream; discharge volume decreases Wetland occurs at the toe of a natural slope Other: Seeps are present at the wetland edge AA permanently flooded during drought periods Wetland contains an outlet, but no inlet Shallow water table and the site is saturated to the surface

		t	Buration of 9	aturation at	AA Wetia] the functional j ands <u>FROM GR</u> THAT IS RECHA	OUNDING ILL			
			DISCHARG	GROU	NDWATE	R SYSTEM				
Criteria			P/P	(S/		· Т	None			
Groundwater Discharge o	r Recharge		1H	.71	/	.4M	.1L_			
Insufficient Data/Informati	ion\				(N/A)	7				
Comments: 14K. Uniqueness: i. Rating (working from top	p to bottom,	use the matrix	c below to arr	ive at [circle]	the function	onal points and s not contain pre	rating)			The second and beautiful to the second and the seco
Replacement potential		or mature wetland or	ontains fen, bog, warm springs mature (>80 yr-old) forested and or plant association listed as "S1" by the MTNHP			pes and structure is high or control listed as MTNHP	ral diversity tains plant "S2" by the	cited ra and st	es not contain are types or a ructural diver low-moder	ssociation sity (#13) is ate
Estimated relative abundan	ice (#11)	rare	common	abundant	rare	common	abundant	rare	common	\abundar
Low disturbance at AA (#12		1H	.9H	.8H	.8H	.6M	.5M	.5M	.4M	.3L
Moderate disturbance at A		.9H	.8H	.7M	.7M	.5M	.4M	.4M	.3L	.2L
High disturbance at AA (#1		.8H	.7M	.6M	.6M	.4M	.3L	.3L	.2L	<i>ل</i> يان <u>ر</u> ا
iii. Rating (use the matrix the street of th	tion or Educ	ation Area					Kno		otential	
Public ownership or publi	lic easemen	t with genera	ıl public acc	ess (no pen	nission re	equired)	.21		.15H	
	anaral nuhl	ic access (no	nermission	required)			1 .15	н 💹	.1M	
Private ownership with ge					ormicolo:	a for public acc		v1	.05L	
Private or public ownersh Comments:	hip without	general publ	ic access, o	r requiring p				M	.05L	
	hip without	general publ	ic access, o	r requiring p			ess .11	;	.05L	
Private or public ownersh Comments: General Site Notes	All:	general publi	rivas hau	r requiring p			ess .11	;		
Private or public ownersh Comments: General Site Notes	All:	olled i	rivoci.	r requiring p			ess .11	;		;
Private or public ownersh Comments: General Site Notes	All:	olled i	rivoci.	r requiring p			ess .11	;		
Private or public ownersh Comments: General Site Notes	All:	olled i	rivoci.	r requiring p			ess .11	;		
Private or public ownersh Comments: General Site Notes	All:	olled i	rivoci.	r requiring p			ess .11	;		
Private or public ownersh Comments: General Site Notes	All:	olled i	rivoci.	r requiring p			ess .11	;		
Private or public ownersh Comments: General Site Notes	All:	olled i	rivoci.	r requiring p			ess .11	;		
Private or public ownersh Comments: General Site Notes	All:	olled i	rivoci.	r requiring p			ess .11	;		
Private or public ownersh Comments: General Site Notes	All:	olled i	rivoci.	r requiring p			ess .11	;		
Private or public ownersh Comments: General Site Notes	All:	olled i	rivoci.	r requiring p			ess .11	;		
Private or public ownersh Comments: General Site Notes	All:	olled i	rivoci.	r requiring p			ess .11	;		
Private or public ownersh Comments: General Site Notes	All:	olled i	rivoci.	r requiring p			ess .11	;		
Private or public ownersh Comments: General Site Notes	All:	olled i	rivoci.	r requiring p			ess .11	;		
Private or public ownersh Comments: General Site Notes	All:	olled i	rivoci.	r requiring p			ess .11	;		
Private or public ownersh Comments: General Site Notes	All:	olled i	rivoris	r requiring p			ess .11	;		
Private or public ownersh Comments: General Site Notes	All:	olled i	rivoris	r requiring p			ess .11	;		
Private or public ownersh Comments: General Site Notes	All:	olled i	rivoris	r requiring p			ess .11	;		
Private or public ownersh Comments: General Site Notes	All:	olled i	rivoris	r requiring p			ess .11	;		

FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #(S):_____

T.	 , (?	land	/χ
لسه	/		/	*)

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: (Actual Points x Estimated AA Acreage)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	2	0	1		
B. MT Natural Heritage Program Species Habitat	1	0	1		
C. General Wildlife Habitat	1		1		
D. General Fish Habitat			NA		
E. Flood Attenuation			NΔ		
F. Short and Long Term Surface Water Storage			. NA		
G. Sediment/Nutrient/Toxicant Removal	M	4	1:		Ž.
H. Sediment/Shoreline Stabilization		.9	1		*
Production Export/Food Chain Support	1	w Z	1		ji.
J. Groundwater Discharge/Recharge			NA		
K. Uniqueness	4		-1		
L. Recreation/Education Potential (bonus points)			NA		
Totals:		1,8	7		
Percent of Possible Score			a6 %		

Category I Wetland: (must satisfy one of the following criteria; otherwise go to Category II) Score of 1 functional point for Listed/Proposed Threatened or Endangered Species; or Score of 1 functional point for Uniqueness; or Score of 1 functional point for Flood Attenuation and answer to Question 14E.ii.is "yes"; or Percent of possible score > 80% (round to nearest whole #).
Category II Wetland: (Criteria for Category I not satisfied and meets any one of the following criteria; otherwise go to Category IV) Score of 1 functional point for MT Natural Heritage Program Species Habitat; or Score of .9 or 1 functional point for General Wildlife Habitat; or Score of .9 or 1 functional point for General Fish Habitat; or "High" to "Exceptional" ratings for both General Wildlife Habitat and General Fish/Aquatic Habitat; or Score of .9 functional point for Uniqueness; or Percent of possible score > 65% (round to nearest whole #).
Category III Wetland: (Criteria for Categories I, II, or IV not satisfied)
Category IV Wetland: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; otherwise go to Category III) "Low" rating for Uniqueness; and Vegetated wetland component < 1 acre (do not include upland vegetated buffer); and Percent of possible score < 35% (round to nearest whole #).

OVERALL ANALYSIS AREA RATING: (circle appropriate category based on the criteria outlined above)

11

III (I

MDT Montana Wetland Assessment Form (revised 5/25/1999)

1. Project Name:	Billings Bypass		2. Pro	oject #:	NCPD 56(55)	Cont	rol#: 4199
3. Evaluation Date	Mo. 08 Day 21	Yr. 2007 4.	Evaluator(s): DARR,	DEJG, DMKR	5. Wellands/Site	e #(s)	
	ng or Mileposts: East of Upper Yellowstone River – Por	of Hwy 312; Alignments	B2, C1, C3.				E or W; S 45°52'7,318"N
7. a. Evaluating Ag b. Purpose of Ev 1. x 2. 3. 4.	valuation: Wetlands potentially affected b Mitigation wetlands; pre-constr Mitigation wetlands; post-const	uction truction	9. Assessment area	a (AA, tot., ac determining	0.22 acr c.) 0.22 acr g AA)	es (mea es Visua (mea	sured, e.g. by GPS (if applies) ally estimated sured, e.g. by GPS (if applies)
LICIA Class	System	Subsystem	Class	\	/ater Regime	Modifier	% of AA
HGM Class Depressional	System	Supsystem	EM		, C	Wound	100
Depressional							
(G); Semipermanently FI (f), Artificial (a); HGM CI 11. Estimated re (circle one) Comments; We 12. General con	looded (F), Seasonally Flooded (C); Seasonally Flooded	saturated (B), Temporarily e, Mineral Soil Flats, Organ imilarity classified si Rare f a small drainage ju	Flooded (A), Intermittenth ic Soil Flats, Lacustrine Faces within the same Common ist north of the free	rFlooded (J); iringe Major Mo Ab way.	Modifiers: Excavated (x), Impounded (1),	ntly Flooded (H); Intermittently Exposed Diked (d), Partly Drained (pd), Farmed efinitions)
Conditions with A		on to dotonimo tem			ns adjacent to (wit	hin 500 feet	of AA
Conditions with F	174	state; is not graze	predominantly natural d, hayed, logged, or ed; does not contain	Land not or grazed or h	ultivated, but moderately nayed or selectively logg subject to minor cleaning w roads or buildings	Land logge ed; or place hydro	cultivated or heavily grazed or ad; subject to substantial fill ement, grading, cleaning or ological atteration, high road or ing density
	aged in predominantly natural state; is , or otherwise converted; does not pied buildings			low distu			derate disturbance
logged; or has been su	moderately grazed or hayed or select ubject to relatively minor clearing; fill gical alteration; contains few roads or	ively moderate dist	turbance	moderat	te disturbance	high	n disturbance
	y grazed or logged; subject to relative int, grading, cleaning, or hydrological building density		nce	high dist	turbance	high	n disturbance
ii. Prominent v	es of disturbance, intensity, veedy, alien, and introduced	species (including t				denression :	Surrounding habitat is
	and. Welland is in heavily g		mu use/naviidi.	Canal Ove	ZINOW ((IO HAIUIA)		Carrottany Handt 19
13. Structural D	Diversity: (based on numb	er of Cowardin" veg	T		t include unvegeta	ited classes]	see #10 above)
# of Cowardin ve	getated classes present in A	VA (see #10)	> 3 vegetated cla ≥ 2 if one is fores	sses (or ted)	2 vegetated cla if forested)		≤ 1 vegetated class
Rating (circle)	de del ar 1999 e 1990 e 1990 e 1990 e 1990 e 1990 e 1990 e 1990 e 1990 e 1990 e 1990 e 1990 e 1990 e 1990 e 19		High		Modera	nte	Low
Comments:	1 FA		***************************************				

SECTION PERTAINING TO FUNCTIONS AND VALUES ASSESSMENT

14a. Habitat for Federally	Liste	d or l	rop	osed '	Threa	tene	d or E	ndar	ngere	d Pla	nts o	r Anir	nals:							
 AA is Documented (D) or Sus Primary or critical habitat (list Secondary habitat (list species Incidental habitat (list species No usable habitat 	species)		o con D D D D	tain (ci	rcle or	ne bas	ed on	defini	tions	contain	ed in i	nstruc	tions):	104///021/A\\u00e4/				4.444.4		
ii. Rating (use the conclusions this function)	rom I	above	and t	the ma	trix be	ow to	arrive	at (cir	cle) th	ne func	tional	points	and ra	ting [H	= hig	h; M =	mode	erate;	or L =	low] fo
Highest Habitat Level	doc	./prim	arγ	sus./	orimar	y do	oc./sec	ondar	ry s	sus./se	conda	rv d	oc./inc	identa	S	us./ind	identa	al	none	
Functional Points and Rating	1 (†	네)		.9 (H)		(M)			7 (M)			5 (L)	***************************************	-	3 (L)			0 (L)	
Sources for documented use (e.a ol	bserva	ations	. record	ds. etc	.):														
14B. Habitat for plant or an	-						lontan	a Nat	ural F	leritad	e Pro	aram :	(not ir	ncludir	na spi	ecies	isted	in 14	A abov	/e)
 i. AA is Documented (D) or Sus Primary or critical habitat (list Secondary habitat (list species Incidental habitat (list species No usable habitat 	specie s)		o con D D D D										ions):	Specc	ves	-of	cac	\ <u>\</u> @\\	si ry	<u>. 2</u> d
ii. Rating (use the conclusions f this function):	rom I a	above	and t	he mat	rix bel	ow to	arrive	at [cir	cle) th	e func	tional	ooints	and rat	ing [H	= hig	h; M =	mode	erate;	or L =	low] fo
Highest Habitat Level	doc	./prjm	ary	sus./p	orimar	1	doc./s	econd	ary	sus./s	econo	lary	doc./ir	ciden	tal	sus./i	ncider	ntal	ngae	
Functional Points and Rating	1 (F	1)X		.9 (H)			.8 (M)			.7 (M))		.5 (L)			.3 (L)			70 (L)	
Sources for documented use (e	e.g., ol	serva	tions	, record	ls, etc	.): Obs	served	durin	a DE/	\ 8/21/ ₁	07 field	d visit.					•			· · · · ·
14C. General Wildlife Habi i. Evidence of overall wildlife us	tat Ra	i ating: e AA (: (circle	substa	antial, i	modei	ate, o	low b	ased	on sup	portin	g evid	ence):							
Substantial (based on any of the	e follo	wing [chec	<]:						Lov	v (base	ed on a	any of t	he foll	owing	[chec	k]):			
observations of abundant v abundant wildlife sign such presence of extremely limit interviews with local biolog	as sc ing ha	at, tra bitat f	cks, r eature	nest str es not a	ucture availat	s, gan	ne trail	s, etc.			little spar	to no v se adja	vildlife wildlife acent u with loo	sign pland	food :	source	s			
Moderate (based on any of the	follow	ing [cl	neck])):																
observations of scattered v common occurrence of wild adequate adjacent upland interviews with local biolog	llife sig food s	gn suc ource:	ch as	scat, tr	acks, i		-	-				eriods								
ii. Wildlife habitat features (low (L) rating. Structural diver in terms of their percent comp seasonal/intermittent; T/E = te	sity is ositior	from : of the	#13. ∋ AA (For cla (see #1	ss cov	er to l obrevi	oe con ations	sidere for su	ed eve irface	nly dis water o	tribute duratio	d, veg ns are	etated as foll	classe ows:	s mu: P/P ≂	st be w	ithin 2	20% o	f each	other
Structural Diversity (see #13)				Н	gh				T	~~		Mod	erate					L	ow	
Class cover distribution (all vegetated classes)		E۱	/en			Une	even			E	ven			Une	ven			E	ven	
Duration of surface water in ≥ 10% of AA	P/P	S/I	T/E	А	P/P	S/I	T/E	А	P/P	S/I	T/E	А	P/P	S/I	T/E	Α	P/P	S/I	T/E	Α
Low disturbance at AA (see #12i)	Ε	E	Е	Н	Ε	Е	Е	Н	E	E	E	M	E	Н	М	М	E	Н	М	М
Moderate disturbance at AA	Н	Н	Н	Н	Н	Н	Н	М	Н	Н	М	М	Н	М	М	L	Н	М	L	L

iii. Rating (use the conclusions from i and ii above and the matrix below to arrive at [circle] the functional points and rating (E = exceptional; H = high; M = moderate or L = low] for this function)

L

L

L

L

L

L

Μ

Μ

(see #12i)

(see #12i)

High disturbance at AA

Evidence of wildlife use (i)	Wildlife habitat features rating (ii)									
	Exceptional	High	Moderate	Low						
Substantial	1 (E)	.9 (H)	.8 (H)	.7 (M)						
Moderate	.9 (H)	.7 (M)	.5 (M)	.3 (L)						
Minimal	.6 (M)	.4 (M)	.2 (L)	.1 (L)						

- 14D. General Fish/Aquatic Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" such that the AA could be used by fish (i.e., fish use is precluded by perched culvert or other barrier, etc.). If the AA is not or was not historically used by fish due to lack of habitat, excessive gradient, etc., circle NA here and proceed to the next function. If fish use occurs in the AA but is not desired from a resource management perspective (such as fish use within an irrigation canal), then Habitat Quality (i below) should be marked as "low", applied accordingly in ii below, and noted in the comments).
- i. Habitat Quality (circle appropriate AA attributes in matrix to arrive at exception (E), high (H), moderate (M), or low (L) quality rating.

Duration of surface water in AA	Perr	nanent/Pere	ennial	Seas	sonal/Interm	ittent	Temp	orary/Ephe	meral
Cover - % of waterbody in AA containing cover objects such as submerged logs, large rocks & boulders, overhanging banks, floating-leaved vegetation, etc.	> 25%	10-25%	<10%	> 25%	10-25%	<10%	> 25%	10-25%	<10%
Shading - > 75% of streambank or shoreline within AA contains riparian or wetland scrub-shrub or forested communities	E	E	Н	Н	Н	M	M	M	M
Shading - 50 to 75% of streambank or shoreline within AA contains rip or wetland scrub-shrub or forested communities	Н	Н	M	M	M	М	M	L	L
Shading - < 50% of streambank or shoreline within AA contains rip or wetland scrub-shrub or forested communities	Н	М	M	M	L	L	L	L	L

- ii. Modified Habitat Quality (Circle the appropriate response to the following question. If answer is Y, then reduce rating in i above by one level [E = H, H=M, M=L, L=L]). Is fish use of the AA precluded or significantly reduced by a culvert, dike, or other man-made structure or activity or is the waterbody included on the IDEQ list of waterbodies in need of TMDL development with listed "Probable Impaired Uses" including cold or warm water fishery or aquatic life support?

 Y

 N

 Modified habitat quality rating = (circle)

 E

 H

 M

 L
- iii. Rating (use the conclusions from i and ii above and the matrix below to arrive at (circle) the functional points and rating [E = exceptional, H = high, M = moderate or L = low] for this function).

Types of fish known or	Modified Habitat Quality (ii)							
suspected within AA	Exceptional	High	Moderate	Low				
Native game fish	1 (E)	.9 (H)	.7 (M)	.5 (M)				
Introduced game fish	.9 (H)	.8 (H)	.6 (M)	.4 (M)				
Non-game fish	.7 (M)	.6 (M)	.5 (M)	.3 (L)				
No fish	.5 (M)	.3 (L)	.2 (L)	.1 (L)				

Comments:

- 14E. Flood Attenuation: (applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, circle NA here and proceed to next function.
- i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate or L = low])

Estimated wetland area in AA subject to periodic flooding		≥ 10 acres			< 10 ≥ 2 acre	es	≤ 2 acres		
% of flooded wetland classified as forested, scrub/shrub, or both	75%	25-75%	<25%	75%	25-75%	<25%	75%	25-75%	<25%
AA contains no outlet or restricted outlet	1(H)	.9(H)	.6(M)	.8(H)	.7(H)	.5(M)	.4(M)	.3(L)	.2(L)
AA contains unrestricted outlet	.9(H)	.8(H)	.5(M)	.7(M)	.6(M)	.4(M)	.3(L)	.2(L)	.1(L)

- ii. Are residences, businesses, or other features which may be significantly damaged by floods located within 0.5 miles downstream of the AA (circle)?
- Y N Comments:
- 14F. Short and Long Term Surface Water Storage: (applies to wetlands that flood or pond from overbank or in-channel flow, precipitation, upland surface flow, or groundwater flow. If no wetlands in the AA are subject to flooding or ponding, circle NA here and proceed with the evaluation).
- i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate or L = low] for this function. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I seasonal/intermittent; and T/E temporary ephemeral [see instructions for further definitions of these terms].)

Estimated maximum acre feet of water contained in wetlands within the AA that are subject to periodic flooding or ponding		> 5 acre feet	ı	< ;	5 > 1 acre fe	eet		< 1 acre foo	ot
Duration of surface water at wetlands within the AA	P/P	S/I	T/E	P/P	S/I	T/E	P/P	S/I	T/E
Wetlands in AA flood or pond > 5 out of 10 years	1(H)	.9(H)	.6(M)	.8(H)	.6(H)	.5(M)	.4(M)	.3(L)	.2(L)
Wetlands in AA flood or pond < 5 out of 10 years	.9(H)	.8(H)	.7(M)	.7(M)	.5(M)	.4(M)	.3(L)	.2(L)	.1(L)

Comments:

- 14G. Sediment/Nutrient/Toxicant Retention and Removal: (applies to wetlands with potential to receive excess sediments, nutrients, or toxicants through influx of surface or ground water or direct input. If no wetlands in the AA are subject to such input, circle NA here and proceed with the evaluation.)
- i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate or L = low].

Sediment, nutrient, and toxicant input levels within AA	deliver low to or compo substantially	receives or surrounding land use with potential to rer low to moderate levels of sediments, nutrients or compounds such that other functions are not stantially impaired. Minor sedimentation, source nutrients or toxicants, or signs of eutrophication present.			Waterbody on MDEQ list of waterbodies in need of TMDL development for "probable causes" related to sediment, nutrients, or toxicants or AA receives or surrounding land use with potential to deliver high levels of sediments, nutrients, or compounds such that other functions are substantially impaired. Major sedimentation, sources of nutrients, or toxicants, or signs of eutrophication present.					
% cover of wetland vegetation in AA	<u>></u> 7	'0%	< 7	'0%	≥ 70%		< 7	< 70%		
Evidence of flooding or ponding in AA	Yes	No	Yes	No	Yes	No	Yes	No		
AA contains no or restricted outlet	1(H)	.8(H)	.7(M)	.5(M)	.5(M)	.4(M)	.3(L)	.2(L)		
AA contains unrestricted outlet	.9(H)	.7(M)	.6(M) .4(M)		4(M)	.3(L)	.2(L)	.1(L)		

Comments: Not on TMDL list, however signs of high nutrients from cattle excrement and surrounding farmland was apparent.

14H. Sediment/Shoreline Stabilization: (applies only if AA occurs on or within the banks of a river, stream, or other natural or man-made drainage, or on the shoreline of a standing water body which is subject to wave action. If does not apply, circle NA here and proceed to next function.)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating (E = exception, H = high, M = moderate, or L = low] for this function.

% Cover of wetland streambank or shoreline	Duration of surface water adjacent to rooted vegetation						
by species with deep, binding rootmasses	permanent/perennial	seasonal/intermittent	temporary/ephemeral				
> 65%	1(H)	.9(H)	.7(M)				
35 - 64%	.7(M)	.6(M)	.5(M)				
< 35%	.3(L)	.2(L)	.1(L)				

Comments:

14I. Production Export/Food Chain Support:

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating (H = high; M = moderate; or L = Low] for this function. Factor A - acreage of vegetation component in the AA; Factor B = structural diversity rating from #13; Factor C = whether or not the AA contains a surface or subsurface outlet; the final three rows pertain to duration of surface water in the AA, where P/P = permanent/perennial; S/I = seasonal/intermittent; T/E = temporary/ephemeral or absent [see instructions for further definitions of these terms]).

Α		Vegeta	ted com _i	ponent :	> 5 acre:	S		Vegetated component 1-5 acres				Vegetated component < 1 acre						
В	Н	igh	Mod	erate	L	ow	Н	igh	Mod	erate	L	ow.	Hi	igh	Mod	erate	Lo	wc
С	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
P/P	1H	.9H	.9H	.8H	.8H	.7M	.9H	.8H	.8H	.7M	.7M	.6M	.7M	.6M	.6M	.4M	.4M	.3L
S/I	.9H	.8H	.8H	.7M	.7M	.6M	.8H	.7M	.7M	.7M	.6M	.5M	.6M	.5M	.5M	.3L	.3L	.2L
T/E/A	.8H	.7M	.7M	.6M	.6M	.5M	.7M	.6M	.6M	.5M	.5M	.4M	.5M	.4M	.4M	.2L	.2L	.1L

ii. Recharge Indicators

Comments:

i. Discharge Indicators

14J.	Groundwater Dischar	ge/Recharge (Check	the indicators in i &	& ii below that a	ipply to the AA)
------	---------------------	--------------------	-----------------------	-------------------	------------------

X iii. Rating	AA permanently flooded during drought periods Wetland contains an outlet, but no inlet Other	X www.to.arrive	Permeable substrate present without underlying impeding layer Wetland contains inlet but no outlet Other at [circle] the functional points and rating (H = high, L = low) for this function.
Criteria			Functional Points and Rating
AA is kno	own Discharge/Recharge area or one or more indicators of E)/R present	1 (H)
No Disch	narge/Recharge indicators are present		.1 (L)
Available Discharge/Recharge information inadequate to rate AA D/		R potential	N/A (Unknown)
Comme	nts:		

14K. Uniqueness

I. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function.

Replacement potential	AA contains fen, bog, warm springs or mature (> 80 yr old) forested wetland or plant association listed as "S1" by the MNHP			rare ty (#13	,	s "S2" by the	AA does not contain previously cited rare types or associations and structural diversity (#13) is low-moderate		
Estimated relative abundance (#11)	Rare	Common	Abundant	Rare	Common	Abundant	Rare	Common	Abundant
Low disturbance at AA (#12i)	1(H)	.9(H)	.8(H)	.8(H)	.6(M)	.5(M)	.5(M)	.4(M)	.3(L)
Moderate disturbance at AA (#12i)	.9(H)	.8(H)	.7(M)	.7(M)	.5(M)	.4(M)	.4(M)	.3(L)	.2(L)
High disturbance at AA (#12i)	.8(H)	.7(M)	.6(M)	.6(M)	.4(M)	.3(L)	.3(L)	.2(L)	,1(L)

14L.	Red	creation/Education Potential: I. Is AA a known rec./ed. Site: Y N (If yes, rate as [circle] High (1), and go to ii; if No, go to iii)
	11.	Check categories that apply to the AA:Educational/scientific study;Consumptive rec.;Non-consumptive rec.;
	Ш.	Based on the location, diversity, size, and other site attributes, is there strong potential for rec./ed. use? Y
	IV.	(If Yes, go to II, then proceed to IV; if No, then rate as [circle] Low [0.1]) Rating (use matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, L = low] for this function.

	Disturbance at AA (#12I)					
Ownership	Low	Moderate	High			
Public ownership	1(년)	.5(M)	.2(L)			
Private ownership	.7(M)	.3(L)	.1(L)			

FUNCTION & VALUE SUMMARY & OVERALL RATING

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units; (Actual Points & Estimated AA Acreage)
A. Listed/Proposed T&E Species Habitat	L	0	1	
B. MT Natural Heritage Program Species Habitat	'H.)	740	1	
C. General Wildlife Habitat	L	0.1	11	
D. General Fish/Aquatic Habitat	NA	NA	NA	
E. Flood Attenuation	L	0.1	11	
F. Short and Long Term Surface Water Storage	М	0,4	1	X
G. Sediment/Nutrient/Toxicant Removal	M	0.4	1	4
H. Sediment/Shoreline Stabilization	NA	NA	NA	
I. Production Export/Food Chain Support	М	0.4	1	
J. Groundwater Discharge/Recharge	Н	1	11	A
K. Uniqueness	L	0.2	1	
L. Recreation/Education Potential	L	0.1	1	
Totals:	L	3,3 4.3	10	=0.43 or 43% 33'/,

OVERALL ANALYSIS AREA (AA) RATING: (Circle appropriate category based on the criteria outlined below)

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Category I Wetland: (Must satisfy one of the following criteria; if does not meet criteria, go to Category II)

- Score of 1 functional point for Listed/Proposed Threatened or Endangered Species; or
- · Score of 1 functional point for Uniqueness; or
- Score of 1 functional point for Flood Attenuation and answer to Question 14E.ii is "yes"; or
- Total actual functional points > 80% (round to nearest whole #) of total possible functional points.

Category II Wetland: (Criteria for Category I not satisfied and meets any one of the following criteria; if not satisfied, go to Category IV)

- Score of 1 functional point for Species Rated S1, S2, or S3 by the MT Natural Heritage Program; or
- · Score .9 or 1 functional point for General Wildlife Habitat; or
- · Score of .9 or 1 functional point for General Fish/Aquatic Habitat; or
- "High" to "Exceptional" ratings for both General Wildlife Habitat and General Fish/Aquatic Habitat; or
- · Score of .9 functional point for Uniqueness; or
- Total Actual Functional Points > 65% (round to nearest whole #) of total possible functional points.

Category III Wetland: (Criteria for Categories I, II or IV not satisfied)

Category IV Wetland: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; if does not satisfy criteria go to Category III)

- · "Low" rating for Uniqueness; and
- · "Low" rating for Production Export/Food Chain Support; and
- Total actual functional points < 30% (round to nearest whole #) of total possible functional points.

Wetland visited 8/25/11
wetland unchanged.
N. leopard flog not aspecies of concern in 2011
Rating changed to IV

	•		;

MDT Montana Wetland Assessment Form (revised 5/25/1999)

1. Project Name:	Billings Bypass		2. Pro	2. Project #: NCPD 56(55) Control #: 4199							
3. Evaluation	Mo. 08 Day 22	Yr. 2007 4.	Evaluator(s): DARR,	DMKR, LXST	5. Wellands/Si	ie #(s)					
3. Wetland Location(s) II. Approx. Stationing III. Watershed:	g or Mileposts: East Upper Yellowstone River – Po	and West of Hwy 312; A	26 E E or W; S Alignments B2, C1, C3 GPS Re	3,		-	,	r W; S			
2 3 4.	ncy: David Evar duation: Wetlands potentially affected to Mitigation wetlands; pre-const Mitigation wetlands; post-cons	ruction truction	Assessment area (see instructions on	i (AA, tot., ac determining	.) AA)10 ac	(we (vist	ually estimated asured, e.g. by	GPS (if applies)) GPS (if applies)			
HGM Class	System	Subsystem	Class		ater Regime	Modifier		% of AA			
	P	Subsystem	EM	В.		- Income		85			
Depressional Riverine	R	2	EM	G G				15			
······································											
(circle one) Comments: Wetl	Unknown land occurs at the bottom of AA: sturbance: (use matrix be	Rare of a small drainage ju	Common st north of the free	Abı way.	undant						
Conditions with A	4		Predomina	nt condition	s adjacent to (w	ithin 500 fee	t) of AA				
		state; is not grazed	predominantly natural d, hayed, logged, or ed; does not contain	grazed or ha has been su	ltivated, but moderate ayed or selectively log ibject to minor cleanin v roads or buildings	y logg ged; or plac g; hyd	d cultivated or he ged; subject to sul gement, grading, or rological alteration ding density	ostantial fill cleaning or			
	ged in predominantly natural state; or otherwise converted; does not ed buildings	is not low disturband	ce	low distu	rbance	mo	derate distur	bance			
AA not cultivated, but m	oderately grazed or hayed or select oject to relatively minor clearing; fill cal alteration; contains few roads or	1	urbance	moderate	e disturbance	hig	h disturbance	•			
AA cultivated or heavily substantial fill placemen alteration; high road or	grazed or logged; subject to relativ at, grading, cleaning, or hydrologica building density	ely high disturbar	nce	high dist	urbance	hig	h disturbance	9			
	s of disturbance, intensity, eedy, alien, and introduced	. ,	razing and agricultu hose not domestica			, reed canary	/grass.				
	descriptive summary of A highway and flows SE throu		,		rflow and seepag	ge into natura	al depression	. Canal			
13. Structural Di	iversity: (based on numb	er of Cowardin" vege	etated classes pres	ent [do not	include unveget	ated classes] see #10 ab	ove)			
# of Cowardin veç	f Cowardin vegetated classes present in AA (see #10)			sses (or ted)	2 vegetated cla if forested)	isses (or 1	≤ 1 vegeta	ted class			
Rating (circle)			High		Moder	ate		Low			
Comments:								~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			

SECTION PERTAINING TO FUNCTIONS AND VALUES ASSESSMENT

14a. Habitat for Federally L	isted or Prop.	osed Threate	ned or Endang	ered Plants or A	nimals:		
 i. AA is Documented (D) or Susp Primary or critical habitat (list Secondary habitat (list species Incidental habitat (list species) No usable habitat 	species) D	s s s	based on definitio	ns contained in inst	ructions):		
Rating (use the conclusions fr this function)	om I above and	the matrix belov	v to arrive at [circle	e] the functional poi	nts and rating [H =	high; M = modera	te; or L = low
Highest Habitat Level	doc./primary	sus./primary	doc./secondary	sus./secondary	doc./incidental	sus./incidental	none
Functional Points and Rating	1 (H)	.9 (H)	.8 (M)	.7 (M)	.5 (L)	.3 (L)	0 (L)
14B. Habitat for plant or aniii. AA is Documented (D) or Susp Primary or critical habitat (list s	pected (S) to con species) D	tain (circle one l				species listed in	14A above)
Secondary habitat (list species	,	S					
Incidental habitat (list species) No usable habitat	D D	\$ S					
ii. Rating (use the conclusions from this function): Highest Habitat Level	om I above and	the matrix below	to arrive at [circle			high; M = moderat	
Functional Points and Rating	1 (H)	.9 (H)	.8 (M)	.7 (M)	.5 (L)	.3 (L)	0 (L)
Sources for documented use (e.		L. ` '	1.0 (141)	1 - 1 (141)	1.5(4)	.3 (L)	
14C. General Wildlife Habit i. Evidence of overall wildlife use	at Rating: in the AA (circle	substantial, mo	oderate, or low bas	sed on supporting e	vidence);		
S <i>ubstantial</i> (based on any of the		-		,	on any of the follow	ring [check]):	
observations of abundant w abundant wildlife sign such presence of extremely limiti interviews with local biologis	as scat, tracks, r ng habitat featur	nest structures, e es not available	game trails, etc.	x little to r	o wildlife observati no wildlife sign adjacent upland foo ws with local biolog	od sources	·
Moderate (based on any of the f	ollowing [check]) :					
observations of scattered wi common occurrence of wildl adequate adjacent upland fo interviews with local biologis	life sign such as ood sources	scat, tracks, nes	•	• , ,	ds		
i. Wildlife habitat features (v low (L) rating. Structural divers in terms of their percent compo seasonal/intermittent; T/E = ter	vorking from top sity is from #13. sition of the AA	to bottom, circle For class cover (see #10). Abbi	to be considered reviations for surfa	evenly distributed, v sce water durations	regetated classes r are as follows: P/F	must be within 20% P = permanent/per	% of each oth
Structural Diversity (see #13)		High		M	loderate		Low
Class cover distribution (all	Even		Uneven	Even	Uneve	n	Even

Structural Diversity (see #13)			, , , , , , , , , , , , , , , , , , ,	Н	igh							Mod	erate					L)W	
Class cover distribution (all vegetated classes)		Even Uneven				Even				Uneven				Even						
Duration of surface water in ≥ 10% of AA	P/P	S/I	T/E	А	P/P	S/I	T/E	Α	P/P	S/I	T/E	Α	P/P	S/I	T/E	Α	P/P	S/I	T/E	А
Low disturbance at AA (see #12i)	E	E	E	Н	Е	E	Ε	Н	E	E	E	M	E	Н	M	М	E	Н	М	М
Moderate disturbance at AA (see #12i)	Н	H	Н	Н	Н	Н	Н	М	Н	Н	M	M	H	М	М	L	Н	M	L	L
High disturbance at AA (see #12i)	М	М	M	L	M	М	L	L	М	М	L	L	М	L	L	L	L	L	L	L

iii. Rating (use the conclusions from i and ii above and the matrix below to arrive at [circle] the functional points and rating (E = exceptional; H = high; M = moderate or L = low] for this function)

Evidence of wildlife use (i)	Wildlife habitat features rating (ii)											
	Exceptional	High	Moderate	Low								
Substantial	1 (E)	.9 (H)	.8 (H)	.7 (M)								
Moderate	.9 (H)	.7 (M)	.5 (M)	.3 (L)								
Minimal	.6 (M)	.4 (M)	.2 (L)	.1 (L)								

- 14D. General Fish/Aquatic Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" such that the AA could be used by fish (i.e., fish use is precluded by perched culvert or other barrier, etc.). If the AA is not or was not historically used by fish due to lack of habitat, excessive gradient, etc., circle NA here and proceed to the next function. If fish use occurs in the AA but is not desired from a resource management perspective (such as fish use within an irrigation canal), then Habitat Quality (i below) should be marked as "low", applied accordingly in ii below, and noted in the comments).
- i. Habitat Quality (circle appropriate AA attributes in matrix to arrive at exception (E), high (H), moderate (M), or low (L) quality rating.

Duration of surface water in AA	Perr	nanent/Pere	ennial	Seas	sonal/Interm	nittent	Temporary/Ephemeral			
Cover - % of waterbody in AA containing cover objects such as submerged logs, large rocks & boulders, overhanging banks, floating-leaved vegetation, etc.	> 25%	10-25%	<10%	> 25%	10-25%	<10%	> 25%	10-25%	<10%	
Shading - > 75% of streambank or shoreline within AA contains riparian or wetland scrub-shrub or forested communities	E	E	Н	Н	H	М	M	М	М	
Shading - 50 to 75% of streambank or shoreline within AA contains rip or wetland scrub-shrub or forested communities	Н	Н	M	M	М	М	M	L	L.	
Shading - < 50% of streambank or shoreline within AA contains rip or wetland scrub-shrub or forested communities	Н	М	M	M	L	L	L,	L	L.	

- ii. Modified Habitat Quality (Circle the appropriate response to the following question. If answer is Y, then reduce rating in i above by one level [E = H, H=M, M=L, L=L]). Is fish use of the AA precluded or significantly reduced by a culvert, dike, or other man-made structure or activity or is the waterbody included on the IDEQ list of waterbodies in need of TMDL development with listed "Probable Impaired Uses" including cold or warm water fishery or aquatic life support?

 Y
 N
 Modified habitat quality rating = (circle)
 E
 H
 M
 L
- iii. Rating (use the conclusions from i and ii above and the matrix below to arrive at (circle) the functional points and rating [E = exceptional, H = high, M = moderate or L = low] for this function).

Types of fish known or		Modified Habitat Quality (ii)											
suspected within AA	Exceptional	High	Moderate	Low									
Native game fish	1 (E)	.9 (H)	.7 (M)	.5 (M)									
Introduced game fish	.9 (H)	.8 (H)	.6 (M)	.4 (M)									
Non-game fish	.7 (M)	.6 (M)	.5 (M)	.3 (L)									
No fish	.5 (M)	.3 (L)	.2 (L)	.1 (L)									

Comments:

- 14E. Flood Attenuation: (applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, circle NA here and proceed to next function.
- i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate or L = low])

Estimated wetland area in AA subject to periodic flooding		≥ 10 acres			< 10 <u>≥</u> 2 acre	s		≤ 2 acres		
% of flooded wetland classified as forested, scrub/shrub, or both	75%	25-75%	<25%	75%	25-75%	<25%	75%	25-75%	<25%	
AA contains no outlet or restricted outlet	1(H)	.9(H)	.6(M)	.8(H)	.7(H)	.5(M)	.4(M)	.3(L)	.2(L)	
AA contains unrestricted outlet	.9(H)	.8(H)	.5(M)	.7(M)	.6(M)	.4(M)	.3(L)	.2(L)	.1(L)	

- ii. Are residences, businesses, or other features which may be significantly damaged by floods located within 0.5 miles downstream of the AA (circle)?
- Y N Comments: Farm located to the south, however banks of ditch are too high to flood.
- 14F. Short and Long Term Surface Water Storage: (applies to wetlands that flood or pond from overbank or in-channel flow, precipitation, upland surface flow, or groundwater flow. If no wetlands in the AA are subject to flooding or ponding, circle NA here and proceed with the evaluation).
- i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate or L = low] for this function. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I seasonal/intermittent; and T/E temporary ephemeral [see instructions for further definitions of these terms].)

Estimated maximum acre feet of water contained in wetlands within the AA that are subject to periodic flooding or ponding		> 5 acre fee	t	< ,	5 > 1 acre f	eet	< 1 acre foot			
Duration of surface water at wetlands within the AA	P/P	S/I	T/E	P/P	S/I	T/E	P/P	S/I	T/E	
Wetlands in AA flood or pond > 5 out of 10 years	1(H)	.9(H)	.6(M)	.8(H)	.6(H)	.5(M)	.4(M)	.3(L)	.2(L)	
Wetlands in AA flood or pond < 5 out of 10 years	.9(H)	.8(H)	.7(M)	.7(M)	.5(M)	.4(M)	.3(L)	.2(L)	.1(L)	

Comments:

- 14G. Sediment/Nutrient/Toxicant Retention and Removal: (applies to wetlands with potential to receive excess sediments, nutrients, or toxicants through influx of surface or ground water or direct input. If no wetlands in the AA are subject to such input, circle NA here and proceed with the evaluation.)
- i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate or L = low].

Sediment, nutrient, and toxicant input levels within AA	deliver low to or compo substantially	o moderate levounds such that rimpaired. Mir s or toxicants,	g land use with els of sedimen t other function nor sedimentati or signs of eutr sent.	ts, nutrients, s are not on, sources	Waterbody on MDEQ list of waterbodies in need of TMDL developmen for "probable causes" related to sediment, nutrients, or toxicants or AA receives or surrounding land use with potential to deliver high levels of sediments, nutrients, or compounds such that other functions are substantially impaired. Major sedimentation, sources of nutrients, or toxicants, or signs of eutrophication present.						
% cover of wetland vegetation in AA	≥ 7	0%	< 7	0%	≥ 7	0%	< 70%				
Evidence of flooding or ponding in AA	Yes	No	Yes	No	Yes	No	Yes	No			
AA contains no or restricted outlet	1(H)	.8(H)	.7(M)	.5(M)	.5(M)	.4(M)	.3(L.)	.2(L)			
AA contains unrestricted outlet	.9(H)	.7(M)	.6(M)	.4(M)	.4(M)	.3(t.)	2(L)	.1(L)			

14H. Sediment/Shoreline Stabilization: (applies only if AA occurs on or within the banks of a river, stream, or other natural or man-made drainage, or on the shoreline of a standing water body which is subject to wave action. If does not apply, circle NA here and proceed to next function.)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating (E = exception, H = high, M = moderate, or L = low] for this function.

% Cover of wetland streambank or shoreline	Duration	of surface water adjacent to rooted v	/egetation
by species with deep, binding rootmasses	permanent/perennial	seasonal/intermittent	temporary/ephemeral
> 65%	1(H)	.9(H)	.7(M)
35 - 64%	.7(M)	.6(M)	.5(M)
< 35%	.3(L)	.2(L)	.1(L)

Comments:

14I. Production Export/Food Chain Support:

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating (H = high; M = moderate; or L = Low] for this function. Factor A - acreage of vegetation component in the AA; Factor B = structural diversity rating from #13; Factor C = whether or not the AA contains a surface or subsurface outlet; the final three rows pertain to duration of surface water in the AA, where P/P = permanent/perennial; S/I = seasonal/intermittent; T/E = temporary/ephemeral or absent [see instructions for further definitions of these terms]).

Α		Vegeta	ted com	ponent :	> 5 acre.	S	Vegetated component 1-5 acres						Vegetated component < 1 acre						
В	Н	igh	Mod	lerate	L	ow	Н	igh	Mod	erate	L	ow	Н	igh	Mod	erate	Li	ow	
С	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	
P/P	1H	.9H	.9H	.8H	.8H	.7M	.9H	.8H	.8H	.7M	.7M	.6M	.7M	.6M	.6M	.4M	.4M	.3L	
S/I	.9H	.8H	.8H	.7M	.7M	.6M	.8H	.7M	.7M	.7M	.6M	.5M	.6M	.5M	.5M	.3L	.3L	.2L	
T/E/A	.8H	.7M	.7M	.6M	.6M	.5M	.7M	.6M	.6M	.5M	.5M	.4M	.5M	.4M	.4M	.2L	.2L	.1L.	

Co	m	m	er	ote	

14J	. (Groundwate	r Discharge/Re	charge (Check the	e indicators in i &	ii below that apply to the AA	١)
-----	-----	------------	----------------	-------------------	---------------------	-------------------------------	----

i. Discharge indicators	II. Recharge indicators						
Springs are known or observed X Vegetation growing during dormant season/drought Wetland occurs at the toe of a natural slope X Seeps are present at the wetland edge AA permanently flooded during drought periods Wetland contains an outlet, but no inlet Other iii. Rating: Use the information from i and ii above and the table below	X Permeable substrate present without underlying impeding layer Wetland contains inlet but no outlet Other w to arrive at [circle] the functional points and rating (H = high, L = low) for this function						
Criteria	Functional Points and Rating						
AA is known Discharge/Recharge area or one or more indicators of D/	/R present 1 (H)						
No Discharge/Recharge indicators are present	.1 (L)						
Available Discharge/Recharge information inadequate to rate AA D/R	potential N/A (Unknown)						
Comments:							

14K. Uniqueness

1. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function.

Replacement potential	or ma	A contains fen, bog, warm springs or mature (> 80 yr old) forested etland or plant association listed as "S1" by the MNHP			rpes and struct) (is high or co	s "S2" by the	AA does not contain previously cited rare types or associations and structural diversity (#13) is low-moderate			
Estimated relative abundance (#11)	Rare	Common	Abundant	Rare	Common	Abundant	Rare	Common	Abundant	
Low disturbance at AA (#12i)	1(H)	.9(H)	.8(H)	.8(H)	.6(M)	.5(M)	.5(M)	.4(M)	.3(L)	
Moderate disturbance at AA (#12i)	.9(H)	.8(H)	.7(M)	.7(M)	.5(M)	.4(M)	.4(M)	.3(L)	.2(L)	
High disturbance at AA (#12i)	.8(H)	.7(M)	.6(M)	.6(M)	.4(M)	.3(L)	.3(L)	.2(L)	.1(L)	

Co	mn	her	nts:

14L. Re	ecreation/Education Potential: 1. Is AA a known rec./ed. Site: Y N (If yes, rate as [circle] High (1), and go to ii; if No, go to iii)
11.	Check categories that apply to the AA:Educational/scientific study; Consumptive rec.; Non-consumptive rec.; Other
111.	Based on the location, diversity, size, and other site attributes, is there strong potential for rec./ed. use? Y
	(If Yes, go to II, then proceed to IV; if No, then rate as [circle] Low [0.1])
IV.	Rating (use matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, L = low] for this function.

	Disturbance at AA (#12I)							
Ownership	Low	Moderate	High					
Public ownership	1(H)	.5(M)	.2(L)					
Private ownership	.7(M)	.3(L)	.1(L)					

FUNCTION & VALUE SUMMARY & OVERALL RATING

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units; (Actual Points & Estimated AA Acreage)
A. Listed/Proposed T&E Species Habitat	L	0	1	
B. MT Natural Heritage Program Species Habitat	L.	0	1	
C. General Wildlife Habitat	L.,	0.1	1	
D. General Fish/Aquatic Habitat	NA	NA	NA	
E. Flood Attenuation	L	0.1	1	
F. Short and Long Term Surface Water Storage	М	0.4	1	
G. Sediment/Nutrient/Toxicant Removal	Н	0.9	1	A
H. Sediment/Shoreline Stabilization	Н	1	1	A
Production Export/Food Chain Support	M	.4	1	
J. Groundwater Discharge/Recharge	Н	1	1	Ø .
K. Uniqueness	L	0.2	1	
L. Recreation/Education Potential	L	0.1	1	
Totals:	L	4.2	11	=0.38 or 38%

OVERALL ANALYSIS AREA (AA) RATING: (Circle appropriate category based on the criteria outlined below)

111

١V

Category I Wetland: (Must satisfy one of the following criteria; if does not meet criteria, go to Category II)

- Score of 1 functional point for Listed/Proposed Threatened or Endangered Species; or
- Score of 1 functional point for Uniqueness; or
- Score of 1 functional point for Flood Attenuation and answer to Question 14E.ii is "yes"; or
- Total actual functional points > 80% (round to nearest whole #) of total possible functional points.

Category II Wetland: (Criteria for Category I not satisfied and meets any one of the following criteria; if not satisfied, go to Category IV)

- Score of 1 functional point for Species Rated S1, S2, or S3 by the MT Natural Heritage Program; or
- · Score .9 or 1 functional point for General Wildlife Habitat; or
- · Score of .9 or 1 functional point for General Fish/Aquatic Habitat; or
- "High" to "Exceptional" ratings for both General Wildlife Habitat and General Fish/Aquatic Habitat; or
- · Score of .9 functional point for Uniqueness; or
- Total Actual Functional Points > 65% (round to nearest whole #) of total possible functional points.

Category III Wetland: (Criteria for Categories I, II or IV not satisfied)

Category IV Wetland: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; if does not satisfy criteria go to Category III)

- · "Low" rating for Uniqueness; and
- · "Low" rating for Production Export/Food Chain Support; and
- Total actual functional points < 30% (round to nearest whole #) of total possible functional points.

Wetland Ly visited 8/25/11
Wetland boundary adjusted.
Cattle grazing in wetland.
Rating unchanged

,			

MDT Montana Wetland Assessment Form (revised March 2008)

	Jan 1					/ \			1	
1. Project Name: <u>Billin</u>	gs By	pass.		2. MDT	Projec	t#: <u>56(55)</u> _		Control #:	1199	
3. Evaluation Date: Mo	Day	Yr. <u>2011</u>	4. Evaluato	′(s): <u> </u>	Boag	5 . Wetla	nds/Site #(s):	<u> </u>		
6. Wetland Location(s): i ii. Approx. Stationin	. Legal: T <u> </u>	(N or S; R s:	? <u>∭ (É</u>)or W;	s <u>//4-1</u>	12	; T N or S	S; R E o	r W; S	;	
iii. Watershed: 1	20720	<u>07</u>	Watershed N	ame, Coun	ty: <u> </u>	pper Sellouz Mbussama C	stone, F	ompeys	Pillar	
7. a. Evaluating Agency: b. Purpose of Evaluat 1 Wetlands pote 2 Mitigation wet	ion: entially affected tlands; pre-con	l by MDT p struction	roject		,	AA): (acres,	_ (measured,	e.g. by GPS [i		
3 Mitigation wet 4. Other										
10. Classification of We			الإلى ate in ۸۸	Li Data o	M SI	ipply ditch, o	WCHWYY OF O	n bank s		
To. Classification of we	lianu and Aqu	auc nabii	ats III AA			Abbreviations:	(see manual f	or definitions)		
HGM Class (Brinson)	Class (Cowardin)	Modifier (Coward	**	egime 9	% of AA	HGM Classes: If	Riverine (R), [Depressional (I		
K	'EM	1,0,	E SL		60	Fringe (LF);				
		ĔA.				Cowardin Class bottom (UB), Aqu				
		7				Moss-lichen Wet	land (ML), En	nergent Wetlan	d (EM), Scrub-	
						Shrub Wetland (\$ Modifiers: Excav	vated (E), Imp	ounded (I), Dil	ked (D), Partly	
						Drained (PD), Fa Water Regimes:			, Seasonal /	
						Intermittent (SI),	Temporary / E	phemeral (TE		
11. Estimated relative ab	undance: (of	similarly cla	assified sites v	ithin the sa	me Maj		l Basin, see d	'		
(Circle one)	Unknown		Rare	•		Common	,	Abundant		
12. General condition of i. Disturbance: (use	AA: matrix below t	to determin	ne [circle] appr	opriate resp	onse –	see instructions for Mo	ontana-listed r	oxious weed a	and aquatic	
nuisa	nce vegetation	species (/	ANVS) lists)			ant conditions ediacon	t to builthin 50	O feet of AA		
Conditions v	vithin AA		Managed in predo is not grazed, hay otherwise convert roads or buildings ANVS cover is ≤1	minantly nature ed, togged, or ed; does not co ; and noxicus w	al state; ontain	Lant conditions adjacent Land not cultivated, but may grazed or hayed or selective has been subject to minor of few roads or buildings; noxid ANVS cover is ≤30%.	be moderately ly logged; or earing; contains	logged; or subject to substantial fill placement, gradi ring; contains clearing, or hydrological alteration; high ro		
AA occurs and is managed in pred grazed, hayed, logged, or otherwise roads or occupied buildings; and no \$15%.	e converted; does r	ot contain	low disturban			low disturbance		moderate dis	turbance	
AA not cultivated, but may be mod- selectively logged; or has been sub- clearing, fill placement, or hydrolog roads or buildings; noxious weed o	oject to relatively mi lcal alteration; cont	nor ains few	moderate dis	turbance		moderate disturbance	•	high disturba	nce	
AA cultivated or heavily grazed or is substantial fill placement, grading, alteration; high road or building de ANVS cover is >30%.	clearing, or hydrolo nsity; or noxious we	gical eed or	high disturba			high disturbance		high disturba		
Comments: (types o	f disturbance, i	ntensity, s	eason, etc.):	rrigal	ion c	comply ditch, co	nops Nor	rh, Road	south + paralle	
II. Prominent noxiou	ıs, aquatic nu	isance, &	other exotic v	egetation s	species	: roedoman O	CO &			
iii. Provide brief descriptive summary of AA and surrounding land use/habitat: $ag \leftarrow Aeveloped$										
13. Structural Diversity:	(based on num	ber of "Co	wardin" veget	1					pove)	
Existing # of "Cowardin"	' Vegetated C	lasses In A	AA	Initial Rating		s current managemen existence of additions			Modified Rating	
	1 is forested) of			Н	NA			NA	NA	
2 (or 1	if forested) cla	sses		М	NA			NA NEO	NA .	
ط معملم 4	uit not a mono	oudfure.		L M	A	IO.	1	VES	1 L I	

1 class, monoculture (1 species comprises ≥90% of total cover)

SECTION PERTAINING to FUNCTIONS & VALUES ASSESSMENT

i. AA is Documented Primary or critical h Secondary habitat (Incidental habitat (I No usable habitat	(D) or S abitat (l (list specist speci	Suspec list sp ecies) cies)	oted (S) ecies)	to co	ontain (D S D S D S	circle d	one bas	ed o	n defini	tions c	containe	d in				• •				
ii. Rating (use the cond	clusions	from i	i above	and	the ma	trix bel	ow to a	rrive	at [circ	e] the	function	nai p	oints ar	nd ratir	ıg)	т				
Highest Habitat Level		do	oc/prima	ıry	sus/j	oriman	/ doc	/sec	condary	su	ıs/secor	dar	/ do	c/incid	ental	s	us/incid	ental	Nor	1e
Functional Points and I Sources for documented			1H		~~	9H			3M		.7M			.31			.11	_	/ 0	ì
14B. Habitat for plant o i. AA is Documented of Primary or critical habitat (incidental habitat (link) No usable habitat	(D) or S abitat (I l ist spe	iuspec ist spe cies)	ted (S) 1	to co	or S3 by ontain (or D S D S D S	y the N circle o	Montan ne bas	a Na ed o	i tural H n definil	eritage ions c	e Progr ontained	am:	(not inc	cluding ions):	specie	s list	ed in14	A abov	e)	
ii. Rating (use the conc	lusions	from i	above a	and I	he mat	rix bel	ow to a	rrive	at [circl	e] the	function	al p	oints an	ıd ratin	g)					
Highest Habitat Level		doc	c/primar	<u>y</u>	sus/	priman	y d	oc/s	econdar	y s	sus/seco	onda	ıry c	loc/inc	idental		sus/inc	idental	N ₁	one
\$1 Species: Functional Points and F	Rating		1H			.8H			.7M		.61	VI			2L.			1L		<u>)</u> _
S2 and S3 Species: Functional Points and F	Rating		.9Н			.7M			.6M		.51	Vī		.:	2L.			1L		OL.
14C. General Wildlife H i. Evidence of overall w Substantial (based on a observations of abur abundant wildlife sig presence of extreme interviews with local Moderate (based on any observations of scatt common occurrence adequate adjacent u interviews with local II. Wildlife habitat featur	ny of the such such such such such such such such	use in the following hat as sca ang hat sts with following iddlife of ilide sig ood so ats with	the AA wing [che the service of the	neck gh sp s, ne tures edge ck]): or inc as so edge	l): st struc not av of the lividual cat, trac	diversit dures, ailable AA s or re cks, ne	y (during game to in the statively statively	ng ar rails surro few tures	ny perio, , etc. bunding species s, game	d) area durinį trails,	Minin fe litt sp in g peak p etc.	nal w or tie to parse tervi	(based no wild no wild adjace ews wit	on any ilife ob dlife siç ent upla h local	and food biologis	ns o	luring p urces vith kno	eak üs	of the	AA
For class cover to be conspercent composition of the seasonal/intermittent; T/E	sidered e AA (s	evenly ee #10	y distribi)). Abbr	uted evia	, the mo	ost and r surfa	i least p ce wate	oreva er du	alent ve ırations	getate are as	ed class s follows	es n : P/f	oust be perr	within naneni	20% of Vperenr	eacl	h other	in term	s of the	:ir
Structural diversity (see #13)				Hig									erate	·············	#f			Lov	$\overline{\mathcal{O}}$	
Class cover distribution (all vegetated classes)		Eve	en			Unev	en			Eve	en			Unev	en		·	Eve	n)	
Duration of surface water in ≥ 10% of AA	P/P	S/I	T/E	А	P/P	S/I	T/E	Α	P/P	S/I	T/E	Α	P/P	S/I	T/E	Α	P/P	S/I) T/E	А
L ow disturbance at AA (see #12i)	E	E	E	Н	E	E	Н	Н	E	Н	Н	М	E	Н	М	М	E	Н	М	М
Moderate disturbance at AA (see #12i)	Н	Н	Н	н	Н	Н	Н	М	Н	Н	М	М	Н	М	М	L	Н	М	L	L
High disturbance at AA	М	М	М	ا ـ ا	М	7	L	٢	М	М	[М	L.	L	L	L		L	L

iii. Rating (use the conclusions from i and ii above and the matrix below to arrive at [circle] the functional points and rating)

Evidence of wildlife use (i)	Wildlife habitat features rating (ii)										
	Exceptional	High	Moderate	(Low)							
Substantial	1E	.9H	.8H	.7M							
Moderate	.9Н	.7M	.5M	.3L							
Minimal	.6M	.4M	. 2 L	(.1L')							

14D. General Fish Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" such that the AA could be used by fish [i.e., fish use is precluded by perched culvert or other barrier, etc.]. If the AA is not used by fish, fish use is not restorable due to habitat constraints, or is not desired from a management perspective [such as fish entrapped in a canal], then circle NA here and proceed to 14E.) Type of Fishery: Cold Water (CW)____ Warm Water (WW)___ Use the CW or WW guidelines in the user manual to complete the matrix Habitat Quality and Known / Suspected Fish Species in AA (use matrix to arrive at [circle] the functional points and rating) Duration of surface Seasonal / Intermittent Temporary / Ephemeral Permanent / Perennial water in AA Aquatic hiding / resting / Adequate Poor Optimal Adequate Poor Optimal Adequate Poor **Optimal** escape cover Thermal cover optimal / S S 0 S 0 0 S 0 0 S 0 S 0 S 0 S 0 S suboptimal .3L .5M .4M .3L .4M .7M .6M 1E .9H H8. .7M .6M .5M .9H .8H .7M .6M .5M FWP Tier I fish species **FWP Tier II or Native** .3L .2L 2L .5M .4M .5M .8H .7M .6M .5M 4M .4M .6M .6M 5M .9H 8H .7M Game fish species **FWP Tier III or** .2L .1L .3L .5M .4M .3L .2L 4M .5M .5M .4M .7M .6M .5M .4M H8. .7M .6M Introduced Game fish **FWP Non-Game Tier IV** .1L .2L .2L .2L 21 11 11 .4M .3L .4M .4M .4M .3L .3L .5M 4M .5M 5M or No fish species Sources used for identifying fish sp. potentially found in AA: ii. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1) a) Is fish use of the AA significantly reduced by a culvert, dike, or other man-made structure or activity or is the waterbody included on the current final MDEQ list of waterbodies in need of TMDL development with listed "Probable Impaired Uses" including cold or warm water fishery or aquatic life support, If yes, reduce score in i above by or do aquatic nuisance plant or animal species (see Appendix E) occur in fish habitat? Y N b) Does the AA contain a documented spawning area or other critical habitat feature (i.e., sanctuary pool, upwelling area, etc.- specify in comments) for native fish or introduced game fish? Y N If yes, add 0.1 to the adjusted score in i or iia above: **Comments:** iii. Final Score and Rating: ___ 14E. Flood Attenuation: (Applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, circle NA here and proceed to 14F.) irrigation ditch i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating) Moderately entrenched -Entrenched-A, F, G stream Slightly entrenched - C, D, E stream types B stream type types Estimated or Calculated Entrenchment (Rosgen 1994, 1996) <25% 75% 25-75% 25-75% 25-75% <25% % of flooded wetland classified as forested and/or scrub/shrub <25% 75% 75% .4M .3L .2L .7M 5M 1H .9H .6M 8H AA contains no outlet or restricted outlet .2L .3L .1L .9H .8H .5M .7M .6M .4M AA contains unrestricted outlet Entrenchment ratio (ER) estimation - see User's Manual for additional guidance. Entrenchment ratio = (flood-prone width)/(bankfull width) Flood-prone width = estimated horizontal projection of where 2 x maximum bankfull depth elevation intersects the floodplain on each side of the stream. Flood-prone Width 2 x Bankfull Depth Bankfull Width Entrenchment ratio Flood-prone Bankfull width width (ER) Bankfull Depth Slightly Entrenched **Moderately Entrenched** Entrenched ER = 1.0 - 1.4ER = 1.41 - 2.2 ER = >2.2 G stream type F stream type E stream type B stream type A stream type C stream type D stream type ii. Are ≥10 acres of wetland in the AA subject to flooding AND are man-made features which may be significantly damaged by floods located within 0.5 **Comments:** mile downstream of the AA (circle)? Y

14F. Short and Long Term Surface Water Storage: (Applies to wetlands that flood or pond from overbank or in-channel flow, precipitation, upland surface flow, or groundwater flow. If no wetlands in the AA are subject to flooding or ponding, circle NA here and proceed to 14G.)

i. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Abbreviations for surface water definitions are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; and T/E = temporary/ephemeral [see instructions for further definitions

Estimated maximum acre feet of water contained in wetlands within the AA that are subject to periodic flooding or ponding		>5 acre fee	t	1.1	to 5 acre	feet	# Na. 81 - 1 S	1 acre foot	NO MARKET
Duration of surface water at wetlands within the AA	P/P	S/I	T/E	P/P	S/I	T/E	P/P	S/I	T/E
Wetlands in AA flood or pond ≥ 5 out of 10 years	1H	.9H	.8H	8H	.6M	.5M	.4M	.3L	.2L
Wetlands in AA flood or pond < 5 out of 10 years	.9H	.8H	.7M	.7M	.5M	.4M	.3L	.2L	S. IL

14G. Sediment/Nutrient/Toxicant Retention and Removal: (Applies to wetlands with potential to receive sediments, nutrients, or toxicants through influx of surface or ground water or direct input. If no wetlands in the AA are subject to such input, circle/NA rere and proceed to 14H.)

Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low]) Sediment, nutrient, and toxicant Waterbody on MDEQ list of waterbodies in need of input levels within AA TMDL development for "probable causes" related to AA receives or surrounding land use with potential to sediment, nutrients, or toxicants or AA receives or deliver levels of sediments, nutrients, or compounds surrounding land use with potential to deliver high levels at levels such that other functions are not of sediments, nutrients, or compounds such that other substantially impaired. Minor sedimentation, sources functions are substantially impaired. Major sedimentation, sources of nutrients or toxicants, or signs of nutrients or toxicants, or signs of eutrophication present. of eutrophication present. % cover of wetland vegetation in AA < 70% < 70% Evidence of flooding / ponding in AA Yes No Yes No Yes No Yes No AA contains no or restricted outlet 1H Н8. .7M .5M .5M 4M 3L .2L AA contains unrestricted outlet .9H .7M .6M 4M 4M <u>.3L</u> 21 .1L

Comments: ditch above chopland and roadway

14H Sediment/Shoreline Stabilization: (Applies only if AA occurs on or within the banks or a river, stream, or other natural or man-made drainage, or on the shoreline of a standing water body which is subject to wave action. If 14H does not apply, circle NA here and proceed to 14L)

i. Rating (working from top to bottom, use the matrix below to arrive at fcircle1 the functional points and rating)

% Cover of wetland streambank or	Duration	of surface water adjacent to rooted ve	getation
shoreline by species with stability ratings of ≥6 (see Appendix F).	Permanent / Perennial	Seasonal / Intermittent	Temporary / Ephemeral
≥ 65%	1H	(.9H)	.7M
35-64%	.7M	.6M	.5M
< 35%	, .3L	.2L	.1L

Comments: read canary grass on anoth boutes

14i. Production Export/Food Chain Support:

i. Level of Biological Activity (synthesis of wildlife and fish habitat ratings [circle])

General Fish Habitat	General '	Wildlife Habitat Rati	ing (14C.lii.)
Rating (14D.iii.)	E/H	M	(î)
E/H	н	Н	M
M	Н	M	М
L	M	М	L
N/A	Н	M	(L)

ii. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Factor A = acreage of vegetated wetland component in the AA; Factor B = level of biological activity rating from above (14l.i.); Factor C = whether or not the AA contains a surface or subsurface outlet; the final three rows pertain to duration of surface water in the AA, where P/P, S/I, and T/E are as previously defined, and A = "absent" [see instructions for further definitions of these terms].)

Α		Vegeta	ted com	ponent >	>5 acres	}		Vegeta	ted com	onent 1	-5 acres			Vegéta	ited com	ponent:	<1 acre	,
В	Hi	gh	Mod	erate	L	ow	Ĥi	gh	Mod	erate	Lo	DW .	Hi	gh	Mod	erate	C_L	ow)
С	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	(No)
P/P	1H	.7M	.8H	.5M	.6M	.4M	.9∺	.6M	.7M	.4M	.5M	.3L	.8⊢	.6M	.6M	.4M	.3L	.2L
S/I	.9Н	.6M	.7M	.4M	.5M	.3L	8H	.5M	.6M	.3L	.4M	.2L	.7M	.5M	.5M	.3L	.3L	(2L)
T/E/	.8H	.5M	.6M	.3L	.4M	21	73.4	414	C1.	01	0.1	41	214			61		41
Α	no.	, UIVI	.OIVI	.3L	.4171	.2L	.7M	.4M	.5M	.2L	.3L	.TL	.6M	.4M	.4M	.2L	,2L	11. I

iii. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1.) Vegetated Upland Buffer (VUB): Area with ≥ 30% plant cover, ≤ 15% noxious weed or ANVS cover, and that is not subjected to periodic mechanical mowing or clearing (unless for weed control).

a) Is there an average ≥ 50 foot-wide vegetated upland buffer around ≥ 75% of the AA circumference?

Y

N

If yes, add 0.1 to the score in if above and adjust rating accordingly:

iv. Final Score and Rating: Comments: ON	HELL SUY ME IN SALIMINAL LINES
14J. Groundwater Discharge/Recharge: (check the appropriate indi	cators in i & ii below)
i. Discharge Indicators The AA is a slope wetland Springs or seeps are known or observed Vegetation growing during dormant season/drought Wetland occurs at the toe of a natural slope Seeps are present at the wetland edge AA permanently flooded during drought periods Wetland contains an outlet, but no inlet Shallow water table and the site is saturated to the surface Other:	ii. Recharge Indicators Permeable substrate present without underlying impeding layer Wetland contains inlet but no outlet Stream is a known 'losing' stream; discharge volume decreases Other:

Comments:

14K. Uniqueness:

i. Rating (working from top to bottom	use the matr	ix below to arr	ive at [circle]	the function	ial points and	rating)			
Replacement potential	AA contair or matur wetland o	ns fen, bog, wa re (>80 yr-old) r plant associa S1" by the MT	arm springs forested ation listed	AA does rare type (#13)	not contain pro es and structu is high or cont ation listed as MTNHP	eviously cited ral diversity lains plant "S2" by the	cited ra and str	low-moder	associations sity (#13) is ate
Estimated relative abundance (#11)	rare	common	abundant	rare	common	abundant	rare	common	abundant
Low disturbance at AA (#12i)	1H	.9H	.8H	.8H	.6M	.5M	.5M	.4M	.3L
Moderate disturbance at AA (#12i)	.9H	.8H	.7M	.7M	.5M	.4M	.4M	.3L_	.21
High disturbance at AA (#12i)	.8H	.7M	,6M	.6M	,4M	.3L	.3L	.2L_	(1L)

Comments:

14L. Recreation/Education Potential: (affords	"bonus" points if AA provides recreation or education of	opportunity)
i. Is the AA a known or potential rec./ed. site:	(circle) Y N iff 'Yes' continue with the evaluation; if	'No' then circle NA here and proceed to the
overall summary and rating page)	Educational/scientific study; Consumptive rec.; _	*

Known or Potential Recreation or Education Area	Known	Potential
Public ownership or public easement with general public access (no permission required)	.2H	.15H
Private ownership with general public access (no permission required)	.15H	,1M
Private or public ownership without general public access, or requiring permission for public access	.1M	.05L

General Site Notes	\dashv
Controlled irrigation supply dital between authorited or beautly moved havelefuls.	
moused housiefus	
	\dashv
	\dashv
	\neg
	\dashv

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: (Actual Points x Estimated AA Acreage)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	1	0	1		
B. MT Natural Heritage Program Species Habitat	4	0	. 1		
C. General Wildlife Habitat	<u> </u>	« l	`1		
D. General Fish Habitat			NA		
E. Flood Attenuation			MA		
F. Short and Long Term Surface Water Storage			MA		
G. Sediment/Nutrient/Toxicant Removal			NA		
H. Sediment/Shoreline Stabilization	1+	, 9			X
Production Export/Food Chain Support	1	. 2	1		Ж
J. Groundwater Discharge/Recharge			NA		
K. Uniqueness	1		1.	*** · · · · · · · · · · · · · · · · · ·	
L. Recreation/Education Potential (bonus points)			NA		
Totals:		1.3	6		
Percent of Possible Score			22 %		

Category I Wetland: (must satisfy one of the following criteria; otherwise go to Category II) Score of 1 functional point for Listed/Proposed Threatened or Endangered Species; or Score of 1 functional point for Uniqueness; or Score of 1 functional point for Flood Attenuation and answer to Question 14E.ii is "yes"; or Percent of possible score > 80% (round to nearest whole #).
Category II Wetland: (Criteria for Category I not satisfied and meets any one of the following criteria; otherwise go to Category IV) Score of 1 functional point for MT Natural Heritage Program Species Habitat; or Score of .9 or 1 functional point for General Wildlife Habitat; or Score of .9 or 1 functional point for General Fish Habitat; or "High" to "Exceptional" ratings for both General Wildlife Habitat and General Fish/Aquatic Habitat; or Score of .9 functional point for Uniqueness; or Percent of possible score > 65% (round to nearest whole #).
Category III Wetland: (Criteria for Categories I, II, or IV not satisfied)
Category IV Wetland: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; otherwise go to Category III) "Low" rating for Uniqueness; and Vegetated wetland component < 1 acre (do not include upland vegetated buffer); and Percent of possible score < 35% (round to nearest whole #).

П

MDT Montana Wetland Assessment Form (revised 5/25/1999)

. Project Name:	Billings Bypass								
Evaluation Date	Mo. 09 Day 1	19 Yr.	2007 4. Eva	aluator(s): G. Rand	and a 11 miles of \$100.	5. Wellands/Sit	e #(s)	07	0
. Wetland Location(s):	I, Legal; T 01	N or S;	North R	27East E or W;	S 7	T	NorS	R	E or W; S
II. Approx. Stationin		Domovi	Dillor	GDS Pofor	ance No. /if s	annline) 108°24'	53 064"\N	45°50'52 222	ייא
	Upper Yellowstone Rive				SHCC 140. (II c	applies) 100 24	33.004 VV	40 00 02.222	
	tion: Miller-McGirl Ditc				eize: (total	acrael ARFac	res	visually estim	ated)
a. Evaluating Age b. Purpose of Ev		-,-		8. Wetland	Size. (total	200	**********		g. by GPS (if applies)
	Wetlands potentially affe	ected by MD	T project				43.0222	· · · · · · · · · · · · · · · · · · ·	
2.	Mitigation wetlands; pre-	-construction	9.	. Assessment area (A	A, tot., ac.)	201	T NOW	Visually estim	ated
3,	Mitigation wetlands; pos	st-constructio	on (s	see instructions on de					g. by GPS (if applies)
	Other								
10. Classification	n of Wetland and Aqน	atic Habita	ts in AA (HGM a	according to Brinsc	n, firs col.:	USFWS accord	ing to Co	wardin [197	9] rem. cols.)
		1 0		Class	1300	ater Regime	Mod	ifiar	% of AA
HGM Class	System	Suc	osystem	Class				inei	90
Riverine	R	2		UB	G		×		
Slope	Р			EM `	С				10
					:				
			77						
1. Estimated rela (circle one)	ative abundance: (of Unknow	f similarity	eral Soil Flats, Organ	ic Soil Flats, Lacustine F	ringe ijor Montan				, rany Dramed (pu), ram
1. Estimated rela (circle one) comments:	ative abundance: (of Unknow	f similarity (eral Soil Flats, Organ classified sites v Rare	within the same Ma	inge jor Montan At	a Watershed Ba bundant			, rany Diamed (pu), ram
1. Estimated rela (circle one) comments: 12. General cor I. Regard	ative abundance: (of Unknow ndition of AA: ding disturbance: (use	f similarity (eral Soil Flats, Organ classified sites v Rare	within the same Ma Common c [circle] appropriat	jor Montan At	a Watershed Ba bundant	sin, see (definitions)	, Farny Diamed (pd), Farm
1. Estimated rela (circle one) comments:	ative abundance: (of Unknow ndition of AA: ding disturbance: (use	f similarity (eral Soil Flats, Organ classified sites v Rare	within the same Ma Common c [circle] appropriat	jor Montan At	a Watershed Ba bundant e) ns adjacent to (w	sin, see o	definitions) feet) of AA Land cultivated	d or heavily grazed or
1. Estimated relations (circle one) comments: 12. General control (i. Regard	ative abundance: (of Unknow ndition of AA: ding disturbance: (use	f similarity (classified sites v Rare low to determine Land managed in state; is not grazed otherwise converter.	within the same Ma Common e [circle] appropriat Predomina predominantly natural d, hayed, logged, or ed; does not contain	e response tand not cu grazed or h has been st	a Watershed Ba bundant a) a) as adjacent to (w attivated, but moderate layed or selectively log ubject to minor cleanir	sin, see o	feet) of AA Land cultivater logged; subject	d or heavily grazed or t to substantial fill iding, cleaning or teration, high road or
1. Estimated relations (circle one) comments: 12. General cortile. Regard Conditions with A Wetland occurs and is is not grazed, hayed, ic	ative abundance: (of Unknow Unknow Indition of AA: ding disturbance: (use India AA	f similarity on	classified sites v Rare low to determine	within the same Ma Common e [circle] appropriat Predomina predominantly natural d, hayed, logged, or ed; does not contain	e response tand not cu grazed or h has been st	a Watershed Ba bundant a) a) as adjacent to (w altivated, but moderate layed or selectively log ubject to minor deanir w roads or buildings	sin, see o	feet) of AA Land cultivated logged; subject placement, gra hydrological at building densit	t to substantial fill iding, cleaning or teration, high road or
1. Estimated relations (circle one) comments: 12. General cortile in Regard Conditions with A Wetland occurs and is is not grazed, hayed, localitain roads or occup Wetland not cultivated, selectively logged; or clearing; fill placement,	ative abundance: (of Unknow Unknow Indition of AA: ding disturbance: (use India AA	f similarity of	classified sites v Rare low to determine Land managed in state; is not grazed otherwise converteroads or buildings	within the same Ma Common e [circle] appropriat Predomina predominantly natural d, hayed, logged, or ed; does not contain	e response nt condition Land not cu grazed or h has been su contains fey low distu	a Watershed Ba bundant a) a) as adjacent to (w altivated, but moderate layed or selectively log ubject to minor deanir w roads or buildings	sin, see o	feet) of AA Land cultivated logged; subject placement, gra hydrological at building densit	d or heavily grazed or I to substantial fill Iding, cleaning or teration, high road or Y. Sisturbance
1. Estimated relations (circle one) comments: 12. General cortile in Regard Conditions with A Conditi	ative abundance: (of Unknow Unknow Indition of AA: ding disturbance: (use India AA I	f similarity of	classified sites v Rare low to determine Land managed in state, is not grazer otherwise converte roads or buildings low disturbance	within the same Ma Common e [circle] appropriat Predomina predominantly natural d, hayed, logged, or ed; does not contain ce	e response nt condition Land not cu grazed or h has been su contains fey low distu	a Watershed Babundant ins adjacent to (wativated, but moderate layed or selectively loguisted to minor cleaning wroads or buildings irrbance e disturbance	sin, see o	feet) of AA Land cultivate logged; subjec placement, gra hydrological at building densit moderate o	d or heavily grazed or I to substantial fill Iding, cleaning or teration, high road or y disturbance
1. Estimated relations (circle one) comments: 12. General continues of the conditions with A conditio	ative abundance: (of Unknow Indition of AA: I	f similarity of	classified sites v Rare Land managed in state; is not graze otherwise converte roads or buildings Iow disturbant moderate dist	within the same Ma Common e [circle] appropriat Predomina predominantly natural d, hayed, logged, or ed; does not contain ce urbance	e response nt condition Land not cu grazed or h has been si contains fev low distu moderate high dist	a Watershed Babundant e) Ins adjacent to (wastivated, but moderate layed or selectively logubject to minor cleaning wroads or buildings inbance e disturbance urbance	sin, see o	feet) of AA Land cultivater logged; subjec placement, gra hydrological at building densit moderate co high disturb	d or heavily grazed or to substantial fill to substantial fill tiding, cleaning or teration, high road or y. Sisturbance pance
(circle one) omments: 12. General cor I. Regard Conditions with A Wetland occurs and is s not grazed, hayed, ic contain roads or occup Wetland not cultivated, selectively logged; or hotearing; fill placement, roads or buildings Wetland cultivated or herelatively substantial fill hydrological alteration; Comments: (type	ative abundance: (of Unknow Indition of AA: Bing disturbance: (use Indition of AA: It is disturbance: (use It is disturbance:	f similarity of	classified sites v Rare Land managed in state; is not graze otherwise converte roads or buildings low disturbant moderate dist high disturbar	within the same Ma Common e [circle] appropriat Predomina predominantly natural d, hayed, logged, or ed; does not contain ce ce curbance	e response nt condition Land not cu grazed or h has been si contains fev low distu moderate high dist	a Watershed Babundant ins adjacent to (wativated, but moderate layed or selectively loguistic to minor cleaning wroads or buildings irrbance e disturbance urbance Girl Ditch, Ditch	sin, see o	feet) of AA Land cultivater logged; subject placement, gra hydrological at building densit moderate of high disturt	d or heavily grazed or to substantial fill to substantial fill tiding, cleaning or teration, high road or y. Sisturbance
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Comments: 12. General cor I. Regard Conditions with A Wetland occurs and is is not grazed, hayed, le contain roads or occup Wetland not cultivated, selectively logged; or hetearing; fill placement, roads or buildings Wetland cultivated or h relatively substantial fill hydrological alteration; Comments: (type II. Prominent w III. Provide brie proposed crossin probably receives	unknow Indition of AA: Iting disturbance: (use AA Imanaged in predominantly nogged, or otherwise converter isied buildings but moderately grazed or ha has been subject to relatively or hydrological alteration; converter it placement, grading, cleaning high road or building density es of disturbance, inter weedy, alien, and intro if descriptive summary ag point. Ditch is at bas is backflow at high wat	e matrix bel	classified sites v Rare Land managed in state; is not grazed otherwise converte roads or buildings low disturbant moderate dist high disturbant on, etc.): W cies (including to surrounding land separate from	within the same Ma Common e [circle] appropriat Predomina predominantly natural d, hayed, logged, or ed; does not contain ce etland is part of Mil hose not domestica nd use/habitat: m river by long spit	e response nt condition Land not cu grazed or h has been si contains fei low distu moderate high dist ller and Mc ated, feral): Ditch drain of land (art	a Watershed Babundant e) Ins adjacent to (wativated, but moderate layed or selectively log subject to minor cleaning wroads or buildings irrbance e disturbance urbance Girl Ditch, Ditch (list) Cattail, ns to Yellowstone tificial fill?); received	sin, see o	feet) of AA Land cultivated logged, subject placement, grateful disturbed with the bold of	d or heavily grazed or to substantial fill the substantial fill the substantial fill the substantial fill the substantial fill the substantial fill the substantial fill the substantial fill the substantial fill the substantial fill the substantial fill the substantial fill fill fill fill fill fill fill f
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SECTION PERTAINING TO FUNCTIONS AND VALUES ASSESSMENT

14a. Habitat for Federally List	ed or	Propo	sed '	Threa	tened	or En	dange	red P	lants	or An	imals	:								
 AA is Documented (D) or Sus Primary or critical habitat (list Secondary habitat (list species Incidental habitat (list species No usable habitat 	specie s)		o cont D D D D	S S	// Lacha a					~~~~~~~~~		instruc							O Herrando con e	***************************************
It. Rating (use the conclusions for this function)	rom I :	above	and t	he ma	ıtrix be	low to	arrive	at [cir	rcle) tl	ne fund	tional	points	and ra	ting [H	l = hig	h; M =	mode	erate; c	or L = 1	low] fo
Highest Habitat Level	doc	./prim	ary	sus./	primar	y d	oc./sec	onda	ry s	sus./se	conda	ry c	loc./inc	identa	l s	us./ind	cidenta	al ı	none	
Functional Points and Rating	1 (F	1)		.9 (H)	3.	3 (M)			7 (M)			5 (L)		.:	3 (L)		- () (L)	
Sources for documented use (e	.g., ol	bserva	itions,	recor	ds, etc	:.):														
14B. Habitat for plant or anii	nals	rated	S1, S	2, or	S3 by	the N	lontan	a Nat	ural H	leritag	e Pro	gram :	(not in	ncludir	ng spe	ecies I	isted i	in 14A	abov	'e)
AA is Documented (D) or Susperimary or critical habitat (list Secondary habitat (list species Incidental habitat (list species No usable habitat III.Rating (use the conclusions for the secondary habitat)	specie s)	es)	D D D	\$ \$ \$ \$	Northe	ern led	pard f	rog										********		 low) fo
this function):	1							(9 (1.	· · · · · · · · · · · · · · · · · · ·			1010, 0	, 1, ,	
Highest Habitat Level	1	./prima	ary		primar	у	doc./s	econd	ary		secon	dary	doc./i	nciden	tal	sus./i	ncider	ntal	none	
Functional Points and Rating	1 (ト	1)		.9 (H)		.8 (M)			.7 (M)		.5 (L)			.3 (L)			0 (L)	
14C. General Wildlife Habit 1. Evidence of overall wildlife use Substantial (based on any of the observations of abundant was a constant with the observation was a constant with the observation was a constant with the observation was a constant with the observation was a constant with the observation was a constant with the observation was a constant with the observation with the observation was a constant with the observation was a constant with the observation was a constant with the observation was a constant with the observation was a constant with the observation was a constant with the observation was a constant with the observation was a constant with the observation was a constant with the observation was a constant with the observation was a constant with the observation was a constant with the observation was a constant with the observation was a constant with the observation was a constant with the observation was a constant with the observation was a constant with the observation was a con	in the	e AA (wing [circle check];						Lov	v (bas	ng evid ed on a or no v	any of					k use i	period	
abundant wildlife sign such presence of extremely limiti interviews with local biologi	as sc ng ha	at, trad bitat fe	cks, ne eature	est str s not	ucture availat	s, gar	ne trai	s, etc.	•	# # # # # # # # # # # # # # # # # # #	little spa	to no v rse adj rviews	wildlife acent ι	sign ıpland	food s	source	s			
Moderate (based on any of the X observations of scattered w common occurrence of wild adequate adjacent upland f interviews with local biologic	ildlife life siç ood s	group gn suc	s or in h as s	idividu scat, ti	racks,							eriods								
II. Wildlife habitat features (value flow (L) rating. Structural diversin terms of their percent composeasonal/intermittent; T/E = terminal flow.	sity is osition	from # of the	#13. F • AA (:	For cla see #1	iss cov 10). A	er to	be con ations	sidere for su	ed eve irface	enly dis water	tribute duratio	ed, veg	etated as fol	classe	s mus P/P =	st be w	ithin 2	20% of	each	other
Structural Diversity (see #13)				Н	igh		***************************************					Mod	erate					Lc	w	
Class cover distribution (all vegetated classes)		Ev	en	·		Un	even	·		E	ven			Une	even			Ev	en	
Duration of surface water in ≥ 10% of AA	P/P	S/I	T/E	А	P/P	S/I	T/E	Α	P/P	S/I	T/E	А	P/P	S/I	T/E	А	P/P	S/I	T/E	Α
Low disturbance at AA (see #12I)	Ε	E	E	Н	E	Е	E	н	Е	E	E	M	E	Н	М	M	E	Н	М	М
Moderate disturbance at AA (see #12I)	Н	Н	Н	H	Н	Н	H	М	Н	Н	М	М	Н	M	M	L	Н	М	L.	L
High disturbance at AA	M	M	M	L	М	М	L	L	M	М	L	L	М	L	L	L	L	i	L	L

III. Rating (use the conclusions from i and ii above and the matrix below to arrive at [circle] the functional points and rating (E = exceptional; H = high; M = moderate or L = low] for this function)

(see #121)

Evidence of wildlife use (i)	Wildlife habitat features rating (ii)									
	Exceptional	High	Moderate	Low						
Substantial	1 (E)	.9 (H)	.8 (H)	.7 (M)						
Moderate	.9 (H)	.7 (M)	.5 (M)	.3 (L)						
Minimal	.6 (ivi)	.4 (M)	.2 (L)	.1 (L)						

- 14D. General Fish/Aquatic Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" such that the AA could be used by fish (i.e., fish use is precluded by perched culvert or other barrier, etc.). If the AA is not or was not historically used by fish due to lack of habitat, excessive gradient, etc., circle NA here and proceed to the next function. If fish use occurs in the AA but is not desired from a resource management perspective (such as fish use within an irrigation canal), then Habitat Quality (i below) should be marked as "low", applied accordingly in ii below, and noted in the comments).
- i. Habitat Quality (circle appropriate AA attributes in matrix to arrive at exception (E), high (H), moderate (M), or low (L) quality rating.

Duration of surface water in AA	Perr	nanent/Pere	ennial	Seas	sonal/Interm	nittent	Temporary/Epnemeral		
Cover - % of waterbody in AA containing cover objects such as submerged logs, large rocks & boulders, overhanging banks, floating-leaved vegetation, etc.	> 25%	10-25%	<10%	> 25%	10-25%	<10%	> 25%	10-25%	<10%
Shading - > 75% of streambank or shoreline within AA contains riparian or wetland scrub-shrub or forested communities	E	E	H	Н	Н	M	М	M	М
Shading - 50 to 75% of streambank or shoreline within AA contains rip or wetland scrub-shrub or forested communities	Н	Н	М	М	М	M	M	L	L
Shading - < 50% of streambank or shoreline within AA contains rip or wetland scrub-shrub or forested communities	Н	M	М	M	L	L	L.	L	L

- ii. Modified Habitat Quality (Circle the appropriate response to the following question. If answer is Y, then reduce rating in i above by one level [E = H, H=M, M=L, L=L]). Is fish use of the AA precluded or significantly reduced by a culvert, dike, or other man-made structure or activity or is the waterbody included on the IDEQ list of waterbodies in need of TMDL development with listed "Probable Impaired Uses" including cold or warm water fishery or aquatic life support?

 Y
 N
 Modified habitat quality rating = (circle)
 E
 H
 M
 L
- iii. Rating (use the conclusions from i and ii above and the matrix below to arrive at (circle) the functional points and rating [E = exceptional, H = high, M = moderate or L = low] for this function).

Types of fish known or	Modified Habitat Quality (ii)								
suspected within AA	Exceptional	High	Moderate	Low					
Native game fish	1 (E)	.9 (H)	.7 (M)	.5 (M)					
Introduced game fish	,9 (H)	.8 (H)	.6 (M)	.4 (M)					
Non-game fish	.7 (M)	.6 (M)	.5 (M)	3 (L)					
No fish	.5 (M)	.3 (L)	.2 (L)	.1 (L)					

Comments:

- 14E. Flood Attenuation: (applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, circle NA here and proceed to next function.
- i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate or L = low] for this function).

Estimated wetland area in AA subject to periodic flooding		≥ 10 acres		<	< 10 > 2 acre	s		≤ 2 acres	·
% of flooded wetland classified as forested, scrub/shrub, or both	75%	25-75%	<25%	75%	25-75%	<25%	75%	25-75%	<25%
AA contains no outlet or restricted outlet	.1(H)	.9(H)	.6(M)	.8(H)	.7(H)	.5(M)	.4(M)	.3(L)	.2(L)
AA contains unrestricted outlet	.9(H)	.8(H)	.5(M)	.7(M)	.6(M)	.4(M)	.3(L)	.2(L)	.1(L)

- ii. Are residences, businesses, or other features which may be significantly damaged by floods located within 0.5 miles downstream of the AA (circle)?
- Y N Comments: Houses present within 0.5 mile but too high to flood.
- 14F. Short and Long Term Surface Water Storage: (applies to wetlands that flood or pond from overbank or in-channel flow, precipitation, upland surface flow, or groundwater flow. If no wetlands in the AA are subject to flooding or ponding, circle NA here and proceed with the evaluation).
- i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate or L = low] for this function. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I seasonal/intermittent; and T/E temporary epherneral [see instructions for further definitions of these terms].)

Estimated maximum acre feet of water contained in wetlands within the AA that are subject to periodic flooding or ponding		> 5 acre feet		<	5 > 1 acre fe	et		< 1 acre foo	t
Duration of surface water at wetlands within the AA	P/P	S/I	T/E	P/P	S/I	T/E	P/P	S/I	T/E
Wetlands in AA flood or pond > 5 out of 10 years	1(H)	.9(H)	.6(M)	.8(H)	.6(H)	.5(M)	.4(M)	.3(L)	.2(L)
Wetlands in AA flood or pond < 5 out of 10 years	.9(H)	.8(H)	.7(M)	.7(M)	.5(M)	.4(M)	.3(L)	.2(L)	.1(L)

Comments:

- 14G. Sediment/Nutrient/Toxicant Retention and Removal: (applies to wetlands with potential to receive excess sediments, nutrients, or toxicants through influx of surface or ground water or direct input. If no wetlands in the AA are subject to such input, circle NA here and proceed with the evaluation.)
- i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate or L = low] for this function.

Sediment, nutrient, and toxicant input levels within AA	deliver low to or compo substantially	or surrounding o moderate level ounds such that o impaired. Mir s or toxicants, of pres	els of sedimen t other function nor sedimentati or signs of eutr	ts, nutrients, is are not ion, sources	Waterbody on MDEQ list of waterbodies in need of TMDL develop for "probable causes" related to sediment, nutrients, or toxicants or receives or surrounding land use with potential to deliver high leve sediments, nutrients, or compounds such that other functions a substantially impaired. Major sedimentation, sources of nutrients toxicants, or signs of eutrophication present.					
% cover of wetland vegetation in AA	≥ 7	0%	< 7	'0%	> 7	70%	< 70%			
Evidence of flooding or ponding in AA	Yes	No	Yes	No	Yes	No	Yes	No		
AA contains no or restricted outlet	1(H) .8(H) .7(M) .5(M)		.5(M)	.4(M)	3(L)	.2(L)				
AA contains unrestricted outlet	.9(H)	.7(M)	.6(M)	.4(M)	.4(M)	.3(L)	.2(L)	.1(L)		

- 14H. Sediment/Shoreline Stabilization: (applies only if AA occurs on or within the banks of a river, stream, or other natural or man-made drainage, or on the shoreline of a standing water body which is subject to wave action. If does not apply, circle NA here and proceed to next function.)
- i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating (E = exception, H = high, M = moderate, or L = low] for this function.

% Cover of wetland streambank or shoreline	Duration of surface water adjacent to rooted vegetation								
by species with deep, binding rootmasses	permanent/perennial	seasonal/intermittent	temporary/epherneral						
> 65%	1(H)	.9(H)	.7(M)						
35 - 64%	.7(M)	.6(M)	.5(M)						
< 35%	.3(L)	.2(L)	.1(L)						

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141. Production Export/Food Chain Support:

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating (H = high; M = moderate; or L = Low] for this function. Factor A - acreage of vegetation component in the AA; Factor B = structural diversity rating from #13; Factor C = whether or not the AA contains a surface or subsurface outlet; the final three rows pertain to duration of surface water in the AA, where P/P = permanent/perennial; S/I = seasonal/intermittent; T/E = temporary/epherneral or absent [see instructions for further definitions of these terms]).

Α		Vegeta	ted com	ponent :	> 5 acre	S	Vegetated component 1-5 acres					Vegetated component < 1 acre						
В	Н	igh	Mod	erate	Ļ	ow	Н	igh	Mod	erate	L.	ow	Н	igh	Mod	erate	Lo	DW .
С	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
P/P	1H	.9H	.9H	.8H	.8H	.7M	.9H	.8H	.8H	.7M	.7M	.6M	.7M	.6M	.6M	.4M	.4M	.3L
S/I	.9Н	.8H	.8H	.7M	.7M	.6M	.8H	,7M	.7M	.7M	.6M	.5M	.6M	.5M	.5M	.3L	.3L	.2L
T/E/A	.8H	.7M	.7M	.6M	.6M	.5M	.7M	.6M	.6M	.5M	.5M	.4M	.5M	.4M	.4M	.2L	.2L	.1L

Comments:

i. Discharge Indicators	ii. Recharge Indicators
Springs are known or observed Vegetation growing during dormant season/drought Wetland occurs at the toe of a natural slope Seeps are present at the wetland edge AA permanently flooded during drought periods Wetland contains an outlet, but no inlet Other	Permeable substrate present without underlying impeding layer Wetland contains inlet but no outlet Other
iii. Rating: Use the information from I and ii above and the table b	below to arrive at [circle] the functional points and rating (H = high, L = low) for this function

Criteria	Functional Points and Rating
AA is known Discharge/Recharge area or one or more indicators of D/R present	1 (H)
No Discharge/Recharge indicators are present	.1 (L)
Available Discharge/Recharge information inadequate to rate AA D/R potential	N/A (Unknown)
Commonto	

Comments:

14K. Uniqueness

1. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function.

Replacement potential	or m	ature (> 80 yr	ciation listed as	rare ty (#13		s "S2" by the	cited ra	are types or a	tain previously or associations versity (#13) is lerate		
Estimated relative abundance (#11)	Rare	Common	Abundant	Rare	Common	Abundant	Rare	Common	Abundant		
Low disturbance at AA (#12I)	1(H)	.9(H)	.8(H)	.8(H)	.6(M)	.5(M)	.5(M)	.4(M)	.3(L)		
Moderate disturbance at AA (#12I)	.9(H)	.8(H)	.7(M)	.7(M)	.5(M)	.4(M)	.4(M)	.3(L)	.2(L)		
High disturbance at AA (#12I)	.8(H)	.7(M)	.6(M)	.6(M)	.4(M)	.3(L)	.3(L)	.2(L)	.1(L)		

Comments	:
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14L.	Rec	reation/Education Potential: I. Is AA a known rec./ed. Site: Y N (If yes, rate as [circle] High (1), and go to ii; if No, go to iii)
	H.	Check categories that apply to the AA: Educational/scientific study; Consumptive rec.; Other
		Based on the location, diversity, size, and other site attributes, is there strong potential for rec./ed. use? Y N.
		(If Yes, go to II, then proceed to IV; if No, then rate as [circle] Low [0.1])
	IV.	Rating (use matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, L = low] for this function.

	Disturbance at AA (#12I)									
Ownership	Low	Moderate	High							
Public ownership	1(H)	.5(M)	.2(L)							
Private ownership	.7(M)	.3(L)	1. A 1. Mar. 1(L) 1988 95 17 17							

FUNCTION & VALUE SUMMARY & OVERALL RATING

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units; (Actual Points & Estimated AA Acreage)
A. Listed/Proposed T&E Species Habitat	L	0	1	
B. MT Natural Heritage Program Species Habitat	****	0.3	11	
C. General Wildlife Habitat	L	0.3	1	
D. General Fish/Aquatic Habitat	L	0.3	1	
E. Flood Attenuation	L.	0.2	1	
F. Short and Long Term Surface Water Storage	L	0.3	1	
G. Sediment/Nutrient/Toxicant Removal	L	0.3	1	
H. Sediment/Shoreline Stabilization	L	0.2	1	
Production Export/Food Chain Support	L	0.3	1	
J. Groundwater Discharge/Recharge	NA	NA	NA	
K. Uniqueness	L	0.1	1	
L. Recreation/Education Potential	L	0.1	1	
Totals:	L	2.4	11	= .22 or 22%

OVERALL ANALYSIS AREA (AA) RATING: (Circle appropriate category based on the criteria outlined below)

11 111

IV

Category I Wetland: (Must satisfy one of the following criteria; if does not meet criteria, go to Category II)

- Score of 1 functional point for Listed/Proposed Threatened or Endangered Species; or
- · Score of 1 functional point for Uniqueness; or
- Score of 1 functional point for Flood Attenuation and answer to Question 14E.ii is "yes"; or
- Total actual functional points > 80% (round to nearest whole #) of total possible functional points.

Category II Wetland: (Criteria for Category I not satisfied and meets any one of the following criteria; if not satisfied, go to Category IV)

- · Score of 1 functional point for Species Rated S1, S2, or S3 by the MT Natural Heritage Program; or
- · Score .9 or 1 functional point for General Wildlife Habitat; or
- · Score of .9 or 1 functional point for General Fish/Aquatic Habitat; or
- "High" to "Exceptional" ratings for both General Wildlife Habitat and General Fish/Aquatic Habitat; or
- · Score of .9 functional point for Uniqueness; or
- Total Actual Functional Points > 65% (round to nearest whole #) of total possible functional points.

Category III Wetland: (Criteria for Categories I, II or IV not satisfied)

Category IV Wetland: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; if does not satisfy criteria go to Category III)

- · "Low" rating for Uniqueness; and
- "Low" rating for Production Export/Food Chain Support; and
- Total actual functional points < 30% (round to nearest whole #) of total possible functional points.

Wetland visually confirmed 8/25/11 Boundary extended Rating unchanged

		:
		-

MDT Montana Wetland Assessment Form (revised March 2008)

1. Project Name: <u>Sill</u>	ings Bu	<u>, pa a </u>	۹.	2. MDT	Projec	t#: <u>56(55)</u>	Contr	ol#: <u>4149</u>
3. Evaluation Date: Mo.	つ <u>の</u> ひお Day <i>09</i>	J (_Yr <i>2.0∐</i>	4. Evaluato	r(s): <u>人,</u>	Hmo	5 . Wetlai	nds/Site #(s): <u>S</u> (6) Coulsen Ox
6. Wetland Location(s): ii. Approx. Stationir	i. Legal: T <u>1.</u>	_(N)or S; I	R <u>W</u> Eor W	s <u>/7,</u> 19	<u>, 24</u>) ; T N or \$	S; R E or W; S _	
							2.5	
iii. Watershed:	00100		watersned N		A. C.	pen Sellowst Nowstrne Co	i in in the	N6 wide
7. a. Evaluating Agency b. Purpose of Evaluat 1Wetlands pote 2 Mitigation we 3 Mitigation we 4 Other	tion: entially affected tlands; pre-cor tlands; post-co	l by MDT pastruction	project <i>O</i> 9. A see	sessment instructions	riiko k area (A on dete	ang in studyan IA): (acres, ermining AA)	_ (measured, e.g. by <u>Pazos</u> (visually est (measured,	for 1/2 mile, GPS [if applies]) GPS [if applies]) GPS (if applies])
10. Classification of We	tland and Aqu	iatic Habi I	tats in AA	Cours	ien	Abbreviations:	see manual for defini	canal-dry-we oter as east etc
HGM Class (Brinson)	Class (Cowardin)	Modifier (Coward		egime %	6 of AA	HGM Classes: F	Riverine (R), Depress	ional (D), Slope (S),
	15.M	FT	A-51			Mineral Soil Flats Fringe (LF);	(MSF), Organic Soil	Flats (OSF), Lacustrine
			31			bottom (UB), Aqu Moss-lichen Wetl		nsolidated Shore (US), Wetland (EM), Scrub-
							rated (E), Impounded rmed (F), Artificial (A)	(I), Diked (D), Partly)
							Permanent / Perenni Temporary / Epheme	
11. Estimated relative at	undance: (of	similarly cl	assified sites v	vithin the sa	me Maj	or Montana Watershed	Basin, see definition	<u>s)</u>
(Circle one)	Unknown		Rare	9		Common	Abund	lant
	AA: e matrix below ince vegetation		ANVS) lists)	PI	redomin	see instructions for Mo	t to (within 500 feet o	ŋ AA
Conditions v	vithin AA		Managed in predo is not grazed, hay otherwise convert roads or buildings ANVS cover is ≤1	ed, logged, or ed; does not co ; and noxious w	ntain	Land not cultivated, but may grazed or hayed or selectivel has been subject to minor cle tew roads or buildings; noxio ANVS cover is ≤30%.	y logged; or) subject t earing; contains clearing,	ltivated or heavily grazed or logged to substantial fill placement, gradin , or hydrological alteration; high roang density; or noxious weed or AN >30%.
AA occurs and is managed in pred grazed, hayed, logged, or otherwis roads or occupied buildings; and n £15%.	e converted; does r	not contain	low disturban	ce		low disturbance	moder	rate disturbance
AA not cultivated, but may be mod selectively logged; or has been sul clearing, fill placement, or hydrolog roads or buildings; noxious weed o	oject to relatively mi pical alteration; cont	nor ains few	moderate dis	turbance		moderate disturbance	high d	isturbance
AA, cultivated or heavily grazed or substantial fill placement, grading, alteration; high road or building de ANVS cover is >30%.	clearing, or hydrolo nsity; or noxious we	gical eed or	high disturba		,	high disturbance		isturbance
Comments: (types o						Magari badi		
ii. Prominent noxio	ıs, aquatic nu	isance, &	other exotic v	egetation s	species	: reedcanany gr	ass, Canada	thiste, Russian o
iii. Provide brief des Suctounding 13. Structural Diversity:	criptive summ	nary of A/ ກຸ <i>ຕ a D</i> ເ	A and surroun	ding land u	se/hab	itat: AA has ir ci	gation can all	eds
13. Structural Diversity:	(based on num	ber of "Co	wardin" veget	ated classes	s preser	nt [do not include unve	getated classes], see	#10 above)
Existing # of "Cowardin"				Initial Rating	''	current management	· brarama /bass.	*/
	1 is forested)	*****		H	NA			NA NA
2 (or 1	if forested) cla	sses		M	NA			NA NA
1 class, b	ut not a mono	culture	***************************************	(M)	←N	0	Ϋ́Ĕ	S→ (L)

SECTION PERTAINING to FUNCTIONS & VALUES ASSESSMENT

AA is Documented Primary or critical I Secondary habitat Incidental habitat (No usable habitat	l (D) or S nabitat (l (l ist sp e	Suspe list sp ecies)	cted (S) ecies)	to c	ontain (D S D S D S D S	ened o (circle 	r Enda	anger	red Plai	its or	· Animal containe	s: ed in	instruc	itions):		- -				
ii. Rating (use the con	clusions	from	i above	and	the ma	trix be	low to	arrive	at [circ	le] the	e functio	nal p	oints a	nd ratio	ng)	•				
Highest Habitat Level		de	oc/prima	ary	sus/	primar	y do	oc/se	condary	s	us/seco	ndar	y di	oc/incid	dental	s	us/incid	lental	No	ne
Functional Points and	Rating		1H			.9H			вм		.7N	١	İ	.3	L		,1	L	C	
Sources for documented 14B. Habitat for plant of AA is Documented	or anima	als rat	ed S1,	S2, d	or S3 b	y the f	Vionta i one bas	na Na sed o	atural H	eritaç	ge Progi	r am: d in	(not in	cluding	j specie	s lis	ed in14	A abov	e)	-
Primary or critical h Secondary habitat (I Incidental habitat (I No usable habitat	(list spe ist spec	cies) ies)	,		DS DS DS	0	roa-t		due		/23°3					- - (ts A a As	o.A		
ii. Rating (use the cond	JUSIONS				1		- 1									7		********	 	
Highest Habitat Level		do	c/primar	У	sus/	primar	у С	doc/s	econda	γ	sus/sec	onda	ary	doc/inc	idental	-	sus/inc	idental	<u> </u>	one
S1 Species: Functional Points and i	Rating		1H			.8H			.7M		.6	M			2L			1L.		OL.
S2 and S3 Species: Functional Points and I	Rating		.9H		.7M .				.6М		.5	M			2L		Ć	1L)		0L
i. Evidence of overall w Substantial (based on a observations of abu abundant wildlife sign presence of extreme interviews with local observations of scal common occurrence adequate adjacent u interviews with local ii. Wildlife habitat feature For class cover to be con	any of the normal state of which the left in the left	e follo ildlife i as sca ng hab sts with followin idlife g ife sig ood so its with rking fi	wing [cl #s or high at, track- bitat feat h knowle ng [che- groups on n such ources n knowle rom top y distrib	neck gh sp s, ne tures edge ck]): or ind as so edge to b uted]): pecies (est struct not ave of the dividual cat, trac of the ottom, (, the me	diversition diversition diversity and divers	ty (duri game in the latively st stru- appropri	ing ar trails surro / few cture riate .	ny perio , etc. punding species s, game AA attrii	d) area durin trails	Mining fer litter straight for the straight for the straight fer litter straight for the st	mal w or the to parse tervi	(based no wild	on any dife ob dife sig ent upl th local t rating within	and foo biologi	ons o	diversi	eak üse wledge	of the	AA
percent composition of th seasonal/intermittent; T/E	e AA (se	ee #10)). Abbı	'evia	tions fo	ır surfa	ice wat	ter du	ırations	are a	s follows	: P/I	> = peri	manen	t/pereni	nial;	S/I =			•
Structural diversity (see #13)	<u>F</u>			Hię									erate	.500 (0			(Low	5	
Class cover distribution (all vegetated classes)		Eve	n			Unev	en			Ev	en			Unev	ren			Ever	$\overline{)}$	
Duration of surface	P/P	S/I	T/E	Α	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A
water in ≥ 10% of AA Low disturbance at AA											-	-				-				_
(see #12i)	E	E	E	Н	E	E	Н	H	E	Н	H	М	E	H	М	М	E	Н	М	М
Moderate disturbance at AA (see #12i)	н	Н	Н	н	н	H	Н	М	Н	Н	М	М	Н	М	М	L	Н	М	L	L
High disturbance at AA (see #12i)	М	М	М	L	М	М	L	L	М	М	L	L	М	L	L	L	L		L	L
iii. Rating (use the conc	lusions (from i	and ii al	bove	and th	e matr	ix belo	w to	arrive a	t [circl	le] the fu	nctio	onal poi	ints an	d rating	I)		****		L

Wildlife habitat features rating (ii)

Moderate

.8Н

.5M

.2L

High

.9H

.7M

.4M

Minimal Comments:

Substantial

Moderate

Evidence of wildlife use (i)

Exceptional

1E

.9H

.6M

(Low)

.7M

(,3L)

.1L

by fish [i.e., fish use is pre	cluded	by per	ched cu	livert or	other i	parrier	, etc.].	If the A	A is no	ot used	by fish,	fish us	e is no	t restor	able du	ue to ha	abitat	be used
constraints, or is not desire	d from	n a man	nageme	nt pers	pective	[such	as fish	entrap	ped in	a canal], then	circle I	NA her	e and p	orocee	to 141	Ξ.)	
Type of Fishery: Cold	Vater ((CW)	Wa	arm Wa	ter (W	N)	_Use tl	ne CW (or WW	guideli	nes in t	he user	manua	l to con	nplete t	he mati	rix	
	Knowi	n / Sus	pected	Fish S	pecies	in AA	(use n	natrix to	arrive	at [circ	le] the	functio	nal poir	nts and	rating)			
Duration of surface water in AA	11	Perr	manent	/ Perer	inial			Seas	sonal /	Intermi	ttent		100	Tem	porary	/ Ephei	meral	
Aquatic hiding / resting /	Opt	-				or	Opt	imal	Ade	quate	Po	or	Opt	imal	Aded	quate	Pe	or
escape cover Thermal cover optimal /	3.00.33			X				Г						100	AL AU		2 2	
suboptimal	0	S	0/	S	0	S	0	S	0	5	0	5	0	5	0	5	U	3
FWP Tier I fish species	1E	.9H	.8H	.7M	.6M	.5M	.9H	.8H	.7M	.6M	.5M	.4M	.7M	.6M	.5M	.4M	.3L	.3L
FWP Tier II or Native Game fish species	.9H	.8H	.7M	.6M	.5M	.5M	.8H	.7M	.6M	.5M	.4M	.4M	.6M	.5M	.4M	.3L	.2L	.2L
	.8H	.7M	.6M	.5M	.5M	.4M	.7M	.6M	.5M	.4M	.4M	.3L	.5M	.4M	.3L	.2L	.2L	.1L
FWP Non-Game Tier IV	5M	5M	5M	4M	4M	31	4M	4M	4M	31	31	.21.	.2L	.2L	.2L	.1L	.1L	.1L
or No fish species			1212111		The Marie	.JL	,ivi	. TIVI	//	.52	.02					1 1 2		120
b) Does the AA contain a containe fish or introduced gaiii. Final Score and Rating or overbank flow, circle NA	docume ame fis g: (Applie here	ented sp th? Y WA es only the	n N to wetla	g area of If yes Contained sulto 14F.)	or other, add 0 nment	r critica 1.1 to to	al habit he adju År ∽ ing via	at featu sted sc AA in-chan	re (i.e. ore in d	, sancti i or iia a overbai	uary po above:_ nk flow.	ol, upw	velling a	area, et	c spe 	cify in d		
i. Rating (working from to	o to bo	ttom, u	se the i	matrix b	elow to						nts and	l rating) ntrenct	ned –	Entre	nched	AFG	stream
Estimated or Calculated El	ntrench	nment (Rosger	1994,	1996)		0 ,					-		iou				otrouni
% of flooded wetland class	ified a	s forest	ed and	or scru	b/shrul		75%	25-759	% <	25%	75%	25-7	5%	<25%	75%	2		<25%
AA contains no outlet or r	estrict	ed out	let			_	1H				.8H	-		.5M			.3L	.2L
AA contains unrestricted	outlet	tion	eas He	or's Ma	nual fo													.1L
Flood-prone width = estima	ated ho	rizonta	l projec	ction of	where	2 x ma	aximum	bankfu	II dept	h eleva	tion inte	ersects	the flo	odplain	on eac	ch side	of the s	tream.
								NA.							STATE OF THE STATE			
	Habitat Quality and Known / Suspected Fish Species in AA (use matrix to arrive at [circle] the functional points and rating) tition of surface r in AA Permanent / Perg/nial Seasonal / Intermittent Temporary / Ephemeral inchiding / resting / Optimal Adequate Poor Optimal Poor Optimal Adequate Poor Optimal Poor Optimal Poor Optimal Poor Optimal Poor Optimal Poor Optimal Poor Optimal Poor Optimal Poor Optimal Poor Optimal Poor Optimal Poor Optimal Poor Optimal Poor Optimal Poor Optimal Poor Optimal Poo																	
			ment ra	tio				1	OCCUPANT.	000000	XXXXXXX	Spootson	· Marine	В	ankfull	Width		
					M		•		ed									
			stream	n type						A str	eam typ	e	Fs	tream t	уре	G st	ream ty	ре
		-											F		=5		<u> </u>	
ii. Are ≥10 acres of wetlan mile downstream of the AA 14F. Short and Long Ter	(circle	e)? Y face W	N ater St	Com	ments (Applie	: s to w	etlands	that flo	od or	pond fro	om ove	rbank (or in-ch	annel f	low, pre	ecipitat		

i. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; and T/E = temporary/ephemeral [see instructions for further definitions of these terms].)

Estimated maximum acre feet of water contained in wetlands within the AA that are subject to periodic flooding or ponding	;	5 acre fee	t	1.1	to 5 acre	feet	≤1 acre foot			
Duration of surface water at wetlands within the AA	P/P	S/I	T/E	P/P	S/I	T/E	P/P	S/I	T/E	
Wetlands in AA flood or pond ≥ 5 out of 10 years	1H	.9H	.8H	.8H	.6M	.5M	.4M	.3L	.2L	
Wetlands in AA flood or pond < 5 out of 10 years	.9H	.8H	.7M	.7M	.5M	.4M	.3L	.2L	1 1L-	

14G. Sediment/Nutrient/Toxicant Retention and Removal: (Applies to wetlands with potential to receive sediments, nutrients, or toxicants through influx of surface or ground water or direct input. If no wetlands in the AA are subject to such input, circle (NA) here and proceed to 14H.)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low]) Sediment, nutrient, and toxicant Waterbody on MDEQ list of waterbodies in need of input levels within AA TMDL development for "probable causes" related to AA receives or surrounding land use with potential to sediment, nutrients, or toxicants or AA receives or deliver levels of sediments, nutrients, or compounds surrounding land use with potential to deliver high levels at levels such that other functions are not of sediments, nutrients, or compounds such that other functions are substantially impaired. Major substantially impaired. Minor sedimentation, sources of nutrients or toxicants, or signs of eutrophication sedimentation, sources of nutrients or toxicants, or signs present. of eutrophication present % cover of wetland vegetation in AA ≥ 70% < 70% ≥ 70% < 70% Evidence of flooding / ponding in AA Yes No Yes No Yes Nο Yes No AA contains no or restricted outlet 1H .8H .7M 5M 5M .4M .3L 2l. AA contains unrestricted outlet .9H .7M .6M .4M 4M 3L .21. 1L

Comments:

14H Sediment/Shoreline Stabilization: (Applies only if AA occurs on or within the banks or a river, stream, or other natural or man-made drainage, or on the shoreline of a standing water body which is subject to wave action. If 14H does not apply, circle NA here and proceed to 14I.)

i. Rating (working from top to bottom, use the matrix below to arrive at fcircle) the functional points and rating)

% Cover of wetland streambank or	Duration of surface water adjacent to rooted vegetation												
shoreline by species with stability ratings of ≥6 (see Appendix F).	Permanent / Perennial	Seasonal / Intermittent	Temporary / Ephemeral										
≥ 65%	1H	(.9H)	.7M										
35-64%	.7M	.6M	.5M										
< 35%	.3L	.2L	.1L										

Comments: reach comon grass

14I. Production Export/Food Chain Support:

i. Level of Biological Activity (synthesis of wildlife and fish habitat ratings [circle])

General Fish Habitat	General Wildlife Habitat Rating (14C.iii.)										
Rating (14D.iii.)	E/H	M	(L)								
E/H	Н	Н	М								
M	Н	М	М								
	M	M	بلبر								
(N/A)	Н	М									

Shallow water table and the site is saturated to the surface

Other:

ii. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Factor A = acreage of vegetated wetland component in the AA; Factor B = level of biological activity rating from above (14l.i.); Factor C = whether or not the AA contains a surface or subsurface outlet; the final three rows pertain to duration of surface water in the AA, where P/P, S/I, and T/E are as previously defined, and A = "absent" [see instructions for further definitions of these terms].)

<u>A</u>		Vegeta	ted com	ponent >	5 acres	;		Vegeta	ted comp	onent 1	-5 acres	i	∨Vegetated component <1 acre						
В			High Moderate Low		.ow	High		Moderate		Low		High		Moderate			ow/		
C	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	(Yes)	No	
P/P	1H	.7M	.8H	.5M	.6M	.4M	.9H	.6M	.7M	.4M	.5M	.3L	.8H	.6M	.6M	.4M	.3L	.2L	
S/I	.9H	.6M	.7M	.4M	.5M	.3L	.8H	.5M	.6M	.3L	.4M	.2L	.7M	5M	.5M	.3L	(3L)	.2L	
T/E/	.8H	.5M	.6M	.3L	.4M	.2L	.7M	.4M	.5M	.2L	.3L.	.1L	.6M	.4M	.4M	.2L	. 2 L	.1L	

15% noxious weed or ANVS cover, and that is not :	not exceed 1 or be less than 0.1.) Vegetated Upland Buffer (VUB) : Area with ≥ 30% plant cover, ≤ subjected to periodic mechanical mowing or clearing (unless for weed control). and buffer around ≥ 75% of the AA circumference? Y N if yes, add 0.1 to the score in ii
iv. Final Score and Rating:	Comments: when water present
14J. Groundwater Discharge/Recharge: (check	he appropriate indicators in i & ii below)
I. Discharge Indicators The AA is a slope wetland Springs or seeps are known or observed Vegetation growing during dormant season/dre Wetland occurs at the toe of a natural slope Seeps are present at the wetland edge AA permanently flooded during drought period Wetland contains an outlet, but no inlet	Other:

iii. Rating (use the information from i		Duration of s	saturation at	AA Wetlan	ds <i>FROM GR</i>	<u>ROUNDWATER</u>	<u>}</u>		
		DISCHARG	E OR WITH V	<u>WATER TH</u> VDWATER	AT IS RECHA	ARGING THE			
0		P/P	GROUN S/I		<u>313[EWI</u> ⊤	None			
Criteria		1H	.7M		.4M	,1L			
Groundwater Discharge or Recharge Insufficient Data/Information	·	(11)	.1144	N/A	\				
Comments:				Anna Marian Mari	<i>}</i>				
14K. Uniqueness: i. Rating (working from top to bottom,			ŀ	AA does r	not contain pr	eviously cited			proviouel
Replacement potential	or mature wetland or	s fen, bog, wa e (>80 yr-old) plant associa 31" by the MT	forested ation listed	(#13) i	es and structu s high or cont ition listed as MTNHP	tains plant	cited ra	es not contain are types or a auctural divers atow-modera	ssociation sity (#13) is
Estimated relative abundance (#11)	rare	common	abundant	гаге	common	abundant	гаге	common	abundan
Low disturbance at AA (#12i)	1H	.9Н	.8H	.8H	.6M	.5M	.5M	.4M	.3L
LOW DISTUIDANCE ALAVA (#120		011	.7M	.7M	.5M	.4M	.4M	.3L	.2L_
Moderate disturbance at AA (#12i)	.9H	.8H		·	~				(4)
Moderate disturbance at AA (#12i) High disturbance at AA (#12i) Comments: 14L. Recreation/Education Potential i. is the AA a known or potential rec	.8H : (affords "bon	.7M us" points if A	.6M A provides re 'Yes' continue	.6M ecreation or e with the e	.4M education op valuation; if 'N	.31. portunity) lo' then circle	.3L	.2L and proceed	(1L)
Moderate disturbance at AA (#12i) High disturbance at AA (#12i) Comments: 14L. Recreation/Education Potential i. Is the AA a known or potential rec- overall summary and rating pag	.8H : (affords "bon /ed. site: (circ	.7M us" points if A	.6M AA provides re 'Yes' continue	.6M ecreation or with the e	.4M education op valuation; if 'N	.31. portunity) lo' then circle	.3L	.2L and proceed	
Moderate disturbance at AA (#12i) High disturbance at AA (#12i) Comments: 14L. Recreation/Education Potential i. Is the AA a known or potential rec. overall summary and rating pag ii. Check categories that apply to th iii. Rating (use the matrix below to arr	.8H : (affords "bon /ed. site: (circ ge) e AA: Edu rive at [circle] t	.7M us" points if A	.6M AA provides re 'Yes' continue	.6M ecreation or with the e	.4M education op valuation; if 'N	.3L portunity) Io' then circle Non-consum	.3L VA here a	.2L and proceed Other	
Moderate disturbance at AA (#12i) High disturbance at AA (#12i) Comments: 14L. Recreation/Education Potential i. is the AA a known or potential rec- overall summary and rating pag ii. Check categories that apply to th iii. Rating (use the matrix below to arr	.8H : (affords "bon /ed. site: (circ ge) e AA: Edu ive at [circle] t	.7M us" points if A le) Y N (if ucational/scie he functional	.6M AA provides re 'Yes' continue ntific study; _ points and rat	.6M ecreation or with the eccentum ting)	.4M education opposed to the control of the control	.31. portunity) lo' then circle	.3L NA here a cotive rec.;	.2L and proceed	
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FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #(S):___

5	$\langle Q \rangle$	Coulsen	Ditch
	V 7/		

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: (Actual Points x Estimated AA Acreage)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	7	Ø	1		
B. MT Natural Heritage Program Species Habitat)		1		
C. General Wildlife Habitat	7	3	1		
D. General Fish Habitat			NA		
E. Flood Attenuation			MA		
F. Short and Long Term Surface Water Storage			NΑ		
G. Sediment/Nutrient/Toxicant Removal			NA		
H. Sediment/Shoreline Stabilization	1-1	, q	}		
Production Export/Food Chain Support	1	2	1		
J. Groundwater Discharge/Recharge			NA		
K. Uniqueness		a	1		
L. Recreation/Education Potential (bonus points)			NA	***************************************	
Totals:		1.7	6		
Percent of Possible Score			28 %		

Sec general pores p. 5
Category I Wetland: (must satisfy one of the following criteria; otherwise go to Category II) Score of 1 functional point for Listed/Proposed Threatened or Endangered Species; or Score of 1 functional point for Uniqueness; or Score of 1 functional point for Flood Attenuation and answer to Question 14E.ii.is "yes"; or Percent of possible score > 80% (round to nearest whole #).
Category II Wetland: (Criteria for Category I not satisfied and meets any one of the following criteria; otherwise go to Category IV) Score of 1 functional point for MT Natural Heritage Program Species Habitat; or Score of .9 or 1 functional point for General Wildlife Habitat; or Score of .9 or 1 functional point for General Fish Habitat; or "High" to "Exceptional" ratings for both General Wildlife Habitat and General Fish/Aquatic Habitat; or Score of .9 functional point for Uniqueness; or Percent of possible score > 65% (round to nearest whole #).
Category III Wetland: (Criteria for Categories I, II, or IV not satisfied)
Category IV Wetland: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; otherwise go to Category III) Vegetated wetland component < 1 acre (do not include upland vegetated buffer); and Percent of possible score < 35% (round to nearest whole #).

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MDT Montana Wetland Assessment Form (revised March 2008)

	lings	Bupa	2. M	DT Project	#: 56(55)	Control #: 41 79		
3. Evaluation Date: Mo.	<u> </u>	_Yr. <u>201</u>	4. Evaluator(s): 🛵	Strag	5 . Wetlands/Site #(s): <u>* { </u>		
6. Wetland Location(s): ii. Approx. Stationin	i.Legal: T	(N)or S;	R <u>27</u> (E)or W; S <u>19</u>		; T N or S; R E	or W; S;		
iii. Watershed:	<u> 20700</u>	27			per Bellowstone, Prolametone			
7. a. Evaluating Agency b. Purpose of Evaluat 1Wetlands pote	tion:		project			i, e.g. by GPS [if applies])		
2 Mitigation we 3 Mitigation we 4 Other	tlands; post-co	nstruction	n see instruction	ons on deter	mining AA)(m	sually estimated) include 3 unit easured, e.g. by GPS (if applies))		
10. Classification of We	tland and Aqu	atic Habi	∃ smd itats in AA	11 useth	ands concurred by sometimes and the second of the second o	rations in I-90 taling 4 large		
HGM Class (Brinson)	Class (Cowardin)	Modifie (Cowar	r Water Regime	% of AA	HGM Classes: Riverine (R),	Depressional (D), Slope (S),		
	Z (V)	2,1	A SI	40	Mineral Soil Flats (MSF), Org Fringe (LF);	anic Soil Flats (OSF), Lacustrine		
S	7 m	艺:	A SI	60	Cowardin Classes: Rock Bo	ttom (RB), Unconsolidated 3), Unconsolidated Shore (US),		
		/				mergent Wetland (EM), Scrub-		
					Modifiers: Excavated (E), Im Drained (PD), Farmed (F), Ar			
			7		Water Regimes: Permanent intermittent (SI), Temporary /			
11. Estimated relative ab (Circle one)	oundance: (of s Unknown	similarly c	lassified sites within the Rare	same Major	Montana Watershed Basin, see	definitions) Abundant		
				esponse – s	ee instructions for Montana-listed	noxious weed and aquatic		
			Managedia		nt conditions adjacent to (within 5	00 feet of) AA Land cultivated or heavily grazed or logged;		
Conditions v	within AA		Managed in predominantly na is not grazed, hayed, logged, otherwise converted; does no roads or buildings; and noxion ANVS cover is <15%.	or (It contain I us weed or 1	and not cultivated, but may be moderately grazed or hayed or selectively togged; or nas been subject to minor clearing, contains ew roads or buildings; noxious weed or NVS cover is \$30%.	subject to substantial fill placement, grading, clearing, or hydrological alteration; high road or building density; or noxious weed or ANVS cover is >30%.		
AA occurs and is managed in pred grazed, hayed, logged, or otherwise roads or occupied buildings; and no ≤15%.	e converted; does n	ot contain	low disturbance		ow disturbance	moderate disturbance		
AA not cultivated, but may be mode	nor ains few	moderate disturbance		noderate disturbance	high disturbance			
setectively logged; or has been sub clearing, fill placement, or hydrolog roads or buildings; noxious weed o			\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		nigh disturbance	high disturbance		
selectively logged; or has been sub clearing, fill placement, or hydrolog roads or buildings; noxious weed o AA cultivated or heavily grazed or I substantial fill placement, grading, alteration; high road or building de ANVS cover is >30%.	ogged; subject to re clearing, or hydrolog insity; or noxious we	ed or	high disturbance					
selectively logged; or has been sub clearing, fill placement, or hydrolog roads or buildings; noxious weed o AA cultivated or heavily grazed or I substantial fill placement, grading, alteration; high road or building de ANVS cover is >30%.	ogged; subject to re clearing, or hydrolog insity; or noxious we	ed or	Ť	sastmi i	action of US 90 ES	Tokson road on ramps		
selectively logged; or has been sub clearing, fill placement, or hydrolog roads or buildings, noxious weed o AA cultivated or heavily grazed or I substantial fill placement, grading, alteration; high road or building de ANVS cover is >30%.	logged; subject to re clearing, or hydrolog insity; or noxious we f disturbance, i	ed or ntensity, s	season, etc.): Withir					
selectively logged; or has been sub clearing, fill placement, or hydrolog roads or buildings, noxious weed o AA cultivated or heavily grazed or I substantial fill placement, grading, alteration; high road or building de ANVS cover is >30%.	logged; subject to re clearing, or hydrolog insity; or noxious we f disturbance, i	ed or ntensity, s	season, etc.): Withir			Tonson road on ramps To wy milkused con, commercial, residenti		

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 $\langle M \rangle$

NA

NA

←NO NA

1 class, monoculture (1 species comprises ≥90% of total cover)

Comments:

≥3 (or 2 if 1 is forested) classes

2 (or 1 if forested) classes

1 class, but not a monoculture

NA

NΑ

(L)

ΝÃ

NA

NA

NA

YES→

SECTION PERTAINING to FUNCTIONS & VALUES ASSESSMENT

	i. AA is Documented (I Primary or critical ha Secondary habitat (II Incidental habitat (IIs No usable habitat	(D) or S abitat (li list spe	Susped l ist sp ecies)	cted (S) ecies)	ed 7 to co	Threate ontain (D S D S D S	ned o (circle - 	r Endar one bas	ed o	red Plar on defini	its or	Animats containe	s: ed in	instruct	tions):		- - -				
	ii. Rating (use the conclu	lusions	from	i above	and	the ma	trix be	low to a	rrive	at [circ	le] the	function	nal r	oints a	nd ratir	<u>19)</u>			***************************************		
	Highest Habitat Level		do	oc/prima	ary	sus/	primar	y doc	c/se	condary	sı	us/secor	ndar	y do	oc/incid	lental	s	us/incid	lental	Not	ne
	Functional Points and Ra			1H			.9H			8M		.7M	<u></u>		.31			.11	L		Î)
	14B. Habitat for plant or i. AA is Documented (Derimary or critical habitat (list Incidental habitat (list No usable habitat) ii. Rating (use the conclusion)	r anima D) or Su abitat (lis ist speci	als rat uspec ist spe cies)	ted S1, steed (S) ecies)	S2 , c	or S3 b ontain (D S D S D S	oy the f	one base	ed o	on definit	lions c	containe	d in	instructi	ions):		s list	led in14	lA abov	/e)	
	Highest Habitat Level	1010110 .	1			1		- 1			- 1						7				
			uoc	c/primar	У	Susi	/primar	y lac)C/S	econdar	<u>y </u>	sus/seco	onda	iry C	doc/inc	idental	\dashv	sus/inc	idental	N ₁	one
	\$1 Species: Functional Points and Ra	ating		1H			.8H			.7M		.61	M		•.	2L			1L		OL.
	S2 and S3 Species: Functional Points and Ra Sources for documented us			.9Н			.7M			.6M		.51	М			2L		•	1L		OL.
	14C. General Wildlife Hal i. Evidence of overall wife Substantial (based on any observations of abund abundant wildlife sign presence of extremely interviews with local bit of the common occurrence of adequate adjacent upl interviews with local bit i	Iddife using of the dant will a such a such a ly limitin biologist of the forered wilding of wildling of wildling of the foliand foo biologist as (Workidered & AA (see	e following the second of the second south the second south the second south the second secon	the AA wing [ch #s or high that, tracks of the that high knowle high check hi	heck] gh sp s, ne tures edge ck]): or ind as so edge to be uted, revial	j): oeccies cost struct s not ave of the dividual cat, trac of the ottom, c the motions fo and A =	diversit ctures, railable AA ds or re cks, ne AA circle a ost ancor surfa	ty (durin game tr in the s latively st struct appropria i least p	ng ar rails, surro few tures ate v	ny perioco , etc. punding species s, game AA attribalent veg irations	d) area during trails, putes in	Minim fer fer fer fer fer fer fer fer fer fer	mal w or title to parse tervi-	(based for no wild on o wi	on any llife obdife sigent upla th local	and food biologis Struct 20% of the contract	ural	during pources with known the known	wledge	e of the . om #13. s of the	AA
-	13) Class cover distribution				Hig	jn		<u></u>	_		_,-		Mode	erate				ļ	(Low	\supseteq	
2	all vegetated classes)		Eve	:n			Unev	en	,	<u> </u>	Eve	∍n 			Unev	en			Éver	n)	
	Ouration of surface vater in ≥ 10% of AA	P/P	S/I	T/E	A	P/P	S/I	T/E	А	P/P	S/I	T/E	А	P/P	S/I	T/E	Α	P/P	(s/i)	T/E	Α
	.ow disturbance at AA see #12i)	E	E	E	Н	E	Е	Н	Н	Ε	Н	Н	м	E	Н	м	М	E	Н	М	М
	Moderate disturbance at AA (see #12i)	Н	н	н	н	Н	Н	Н	м	Н	Н	М	м	Н	м	м	L	Н	м	L	L
i	ligh disturbance at AA	М	М	М	L	М	М	L	L	М	M	L	L	М	L	L	L	L	<u>1</u>)	L	L
									_					~			1		I	<i></i>	

III. Rating (use the conclusion	ons from I and II above and the	matrix below to arrive at [circle] th	e functional points and rating)								
Evidence of wildlife use (i)	Wildlife habitat features rating (ii)										
	Exceptional	High	Moderate	(Low)							
Substantial	1E	.9H	.8H	.7M							
Moderate	.9H	.7M	.5M	.3L							
Minimal	.6M	.4M	,2L	/.îL∖							

14D. General Fish Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" such that the AA could be used by fish [i.e., fish use is precluded by perched culvert or other barrier, etc.]. If the AA is not used by fish, fish use is not restorable due to habitat constraints, or is not desired from a management perspective [such as fish entrapped in a canal], then circle NA here and proceed to 14E.) Type of Fishery: Cold Water (CW)____ Warm Water (WW)____ Use the CW or WW guidelines in the user manual to complete the matrix Habitat Quality and Known / Suspected Fish Species in AA (use matrix to arrive at [circle] the functional points and rating) Duration of surface Seasonal / Intermittent Temporary / Ephemeral Permanent / Perennial water in AA Aquatic hiding / resting / Poor Adequate Adequate Poor Optimal **Optimal** Adequate Poor Optimal escape cover Thermal cover optimal / 0 S S 0 S 0 S 0 S 0 0 0 S 0 S S 0 S suboptimal .3L .3L .5M .4M .7M .5M .4M .7M .6M 1E .9H .8H .7M .6M .5M 9H .8H .6M FWP Tier I fish species **FWP Tier II or Native** 4M .3L .2L 2L .5M .5M .5M H8. .7M .6M .5M .4M .4M .6M 9H 8H .7M 6M Game fish species **FWP Tier III or** .2L .2L .1L .4M .3L .5M .4M .3L .5M 4M .7M .6M .5M .5M .4M .7M .6M 8H Introduced Game fish **FWP Non-Game Tier IV** .1L .1L .3L .2L 2L .2L 21 11 .4M .4M 31 4M .4M .4M .3L .5M 5M .5M or No fish species Sources used for identifying fish sp. potentially found in AA: ii. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1) a) Is fish use of the AA significantly reduced by a culvert, dike, or other man-made structure or activity or is the waterbody included on the current final MDEQ list of waterbodies in need of TMDL development with listed "Probable Impaired Uses" including cold or warm water fishery or aquatic life support, or do aquatic nuisance plant or animal species (see Appendix E) occur in fish habitat? YN If yes, reduce score in i above by b) Does the AA contain a documented spawning area or other critical habitat feature (i.e., sanctuary pool, upwelling area, etc.- specify in comments) for N If yes, add 0.1 to the adjusted score in i or iia above: native fish or introduced game fish? Y Comments: iii. Final Score and Rating: 14E. Flood Attenuation: (Applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, circle NA here and proceed to 14F.) i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating) (Moderately entrenched)-Entrenched-A, F, G stream Slightly entrenched - C, D. E stream types types Estimated or Calculated Entrenchment (Rosgen 1994, 1996) B stream type 75% 25-75% <25% √25% 25-75% <25% 25-75% % of flooded wetland classified as forested and/or scrub/shrub .5M) .4M .3L .2L 7M AA contains no outlet or restricted outlet .9H .6M .8H .1L .3L 2L .9H .8H .5M .7M .6M .4M AA contains unrestricted outlet Entrenchment ratio (ER) estimation - see User's Manual for additional guidance. Entrenchment ratio = (flood-prone width)/(bankfull width) Flood-prone width = estimated horizontal projection of where 2 x maximum bankfull depth elevation intersects the floodplain on each side of the stream. Flood-prone Width 2 x Bankfull Depth Bankfull Width Entrenchment ratio Bankfull Flood-prone width width Bankfull Depth Slightly Entrenched **Moderately Entrenched** Entrenched ER = 1.0 - 1.4ER = 1.41 - 2.2 ER = >2.2 F stream type G stream type E stream type B stream type A stream type D stream type C stream type ii. Are ≥10 acres of wetland in the AA subject to flooding AND are man-made features which may be significantly damaged by floods located within 0.5 from storm water Comments: hydrology mile downstream of the AA (circle)? Y 14F. Short and Long Term Surface Water Storage: (Applies to wetlands that flood or pond from overbank or in-channel flow, precipitation, upland

surface flow, or groundwater flow. If no wetlands in the AA are subject to flooding or ponding, circle NA here and proceed to 14G.)

i. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; and T/E = temporary/ephemeral [see instructions for further definitions

of these terms].)								
Estimated maximum acre feet of water contained in wetlands within the AA that are subject to periodic flooding or ponding		>5 acre fee	t	1.1	to 5 acre 1	feet	drasi 🧟	1 acre foot
Duration of surface water at wetlands within the AA	P/P	S/I	T/E	P/P	S/I	T/E	P/P	(S/I) T/E
Wetlands in AA flood or pond ≥ 5 out of 10 years	1H	.9H	.8H	.8H	.6M	.5M	.4M	(3L) .2L
Wetlands in AA flood or pond < 5 out of 10 years	.9H	.8H	.7M	.7M	.5M	.4M	.3L	.2L .1L

14G. Sediment/Nutrient/Toxicant Retention and Removal: (Applies to wetlands with potential to receive sediments, nutrients, or toxicants through influx of surface or ground water or direct input. If no wetlands in the AA are subject to such input, circle NA here and proceed to 14H.)

i. Rating (working from top to bottom	n, use the ma	trix below to a	arrive at [circle]	the functional	points and rating [F	l = high, M = m	oderate, or L	= low])
Sediment, nutrient, and toxicant	1				Waterbody or	MDEQ list of	waterbodies in	need of
input levels within AA					TMDL develop	ment for "prob	able causes" г	elated to
				ith potential to	sediment, nut	rients, or toxica	ants or AA rec	eives or
	deliver lev	els of sedime	nts, nutrients, d	or compounds	surrounding land	use with poter	ntial to deliver	high levels
			other functions		of sediments, n	utrients, or con	npounds such	that other
	substantial	ly impaired. N	linor sediment	ation, sources	functions	are substantial	lly impaired. M	ajor
	of nutrien	ts or toxicants	s, or signs of ea	utrophication	sedimentation, s	ources of nutrie	ents or toxican	ts, or signs
			esent.			f eutrophication	n present. 📖	···
% cover of wetland vegetation in AA	≥ 7	70%	< :	70%	≥ 70		(<7	
Evidence of flooding / ponding in AA	Yes	No	Yes	No	Yes	No	(Yes)	No
AA contains no or restricted outlet	1H	.8H	.7M	.5M	.5M	,4M	(3L)	.2L
AA contains unrestricted outlet	.9H	.7M	.6M	.4M	.4M	.3L	2L	.1L
Comments: Foxicants expend	eed do hore	hywac s	torm wat	ev	, sediminat	une ible	<u> </u>	

14H Sediment/Shoreline Stabilization: (Applies only if AA occurs on or within the banks or a river, stream, or other natural or man-made drainage, or on the shoreline of a standing water body which is subject to wave action. If 14H does not apply, circle **NA** here and proceed to 14I.)

i	Rating (working	from ton to hottom	. use the matrix below to arrive at foircle) the functional points and rating)
٠,	I VOLUME A A A COLUMN		i, use the mainx below to arrive at icirclet the figheronal noints and calmut

% Cover of wetland streambank or		of surface water adjacent to rooted ve	egetation
shoreline by species with stability ratings of ≥6 (see Appendix F).	Permanent / Perennial	Seasonal / Intermittent	Temporary / Ephemeral
≥ 65%	1H	(9н)	.7M
35-64%	.7M	.6M	.5M
< 35%	.3L	.2L	.1L

Comments: Cattails & reedownany group 90-100%

14l. Production Export/Food Chain Support:

i. Level of Biological Activity (synthesis of wildlife and fish habitat ratings [circle])

General Fish Habitat	General Wildlife Habitat Rating (14C.iii.)						
Rating (14D.iii.)	E/H	М	(L)				
E/H	Н	Н	M				
M	H	М	М				
L_	M	M	L _{\(\)}				
N/A-	H	M	(1.)				

ii. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Factor A = acreage of vegetated wetland component in the AA; Factor B = level of biological activity rating from above (14l.i.); Factor C = whether or not the AA contains a surface or subsurface outlet; the final three rows pertain to duration of surface water in the AA, where P/P, S/I, and T/E are as previously defined, and A = "absent" [see instructions for further definitions of these terms].)

																	The same of the sa	
A	<u> </u>	Vegeta	ted com	ponent >	5 acres	;		Vegeta	ted comp	onent 1	-5 acres		(Vegeta	ited com	ponent	<1 acre	>
В	Hi	gh	Mod	erate	L	.ow	Н	igh	Mod	erate	Lo)W	Hi	gh	Mod	•	-	ow)
С	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
P/P	1H	.7M	.8H	.5M	.6M	.4M	.9H	.6M	.7M	.4M	.5M	.3L	.8H	.6M	.6M	.4M	:3L	.2L
S/I	.9Н	.6M	.7M	.4M	.5M	.3L	.8H	.5M	.6M	.3L	.4M	.2L	.7M	.5M	.5M	.3L	(.3L.)	.2L
T/E/	.8H	.5M	.6M	.3L	.4M	.2L	.7M	.4M	.5M	.2L	.3L	.1L	.6M	.4M	.4M	.2L	.2L	.1L

 Discharge Indicators The AA is a slope wetland Springs or seeps are known or observed Vegetation growing during dormant season/drought Wetland occurs at the toe of a natural slope	 ii. Recharge Indicators Permeable substrate present without underlying impeding layer Wetland contains inlet but no outlet Stream is a known 'losing' stream; discharge volume decreases Other:	
 Seeps are present at the wetland edge AA permanently flooded during drought periods Wetland contains an outlet, but no inlet Shallow water table and the site is saturated to the surface Other:		

ili. Rating (use the information from i and ii a	Duration of sa	elow to arrive at [circl aturation at AA Wetl E OR WITH WATER GROUNDWATI	ands <u>FROM GRO</u> THAT IS RECHAI	<u>UNDWATER</u>
Criteria	P/P	S/I	T	None
Groundwater Discharge or Recharge	1H	.7M	.4M	,1L
Insufficient Data/Information		N/A		

Comments:

14K. Uniqueness:

i. Rating (working from top to bottom	use the matri	ix below to arr	ive at [circle]	the function	al points and	rating)			<u></u>
Replacement potential	AA contain or matur wetland o	is fen, bog, wa e (>80 yr-old) r plant associa 51" by the MT	arm springs forested ation listed	AA does i rare type (#13) i	not contain pro es and structu is high or cont ation listed as MTNHP	eviously cited and diversity ains plant "S2" by the	cited ra and str	es not contair are types or a ructural diver low-moder	ssociations sity (#13) is ate
Estimated relative abundance (#11)	rare	common	abundant	rare	common	abundant	rare	common (abundant/
Low disturbance at AA (#12i)	1H	.9H	.8H	.8H	.6M	.5M	.5M	.4M	.3L
Moderate disturbance at AA (#12i)	.9H	.8H	.7M	.7M	.5M	.4M	.4M	.3L	,2L
High disturbance at AA (#12i)	.8H	.7M	.6M	.6M	.4M	.3L	.3L	.2L	

High disturbation Comments:

14L. Recreation/Education Potential: (affords	s "bonus" points if AA provides recreation or education opportunity) : (circle) Y N (if 'Yes' continue with the evaluation; if 'No' then circle NA here and proceed to the
i, is the AA a known or potential rec./ed. site	c (circle) 1 N (II Tes continue with the evaluation, it to their states
overall summary and rating page)	
ii. Check categories that apply to the AA: _	
iii. Rating (use the matrix below to arrive at [c	rcle] the functional points and rating)

Known or Potential Recreation or Education Area	Known	Potential
Public ownership or public easement with general public access (no permission required)	.2H	,15H
Private ownership with general public access (no permission required)	.15H	.1M
Private or public ownership without general public access, or requiring permission for public access	.1M	.05L

Private or pu

General Site	e Notes T Westand
SSMO	10 notants from stormunder flows of residential frammercial or on
OF AT	
1000	
	Notes that the second of the s

FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #(S):____

No. of the	1/N	\		AA	
		- /	_/		

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: (Actual Points x Estimated AA Acreage)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	1	0	1.		
B. MT Natural Heritage Program Species Habitat	1	0	1		
C. General Wildlife Habitat	1	0.1	1		
D. General Fish Habitat			NA		
E. Flood Attenuation	m	, 5	ļ.		X
F. Short and Long Term Surface Water Storage		.3			A.
G. Sediment/Nutrient/Toxicant Removal	1	,3			Ŕ
H. Sediment/Shoreline Stabilization	H	, q	e Chim		×
Production Export/Food Chain Support	1	.3	1		sel commat
J. Groundwater Discharge/Recharge	.,	* `	NA		
K. Uniqueness	1	,	1 '		
L. Recreation/Education Potential (bonus points)		,	NA		
Totals:		2.5	9		
Percent of Possible Score		27	⁽ %		J.,

Category I Wetland: (must satisfy one of the following criteria; otherwise go to Category II) Score of 1 functional point for Listed/Proposed Threatened or Endangered Species; or Score of 1 functional point for Uniqueness; or Score of 1 functional point for Flood Attenuation and answer to Question 14E.ii is "yes"; or Percent of possible score > 80% (round to nearest whole #).
Category II Wetland: (Criteria for Category I not satisfied and meets any one of the following criteria; otherwise go to Category IV) Score of 1 functional point for MT Natural Heritage Program Species Habitat; or Score of .9 or 1 functional point for General Wildlife Habitat; or Score of .9 or 1 functional point for General Fish Habitat; or "High" to "Exceptional" ratings for both General Wildlife Habitat and General Fish/Aquatic Habitat; or Score of .9 functional point for Uniqueness; or Percent of possible score > 65% (round to nearest whole #).
Category III Wetland: (Criteria for Categories I, II, or IV not satisfied)
Category IV Wetland: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; otherwise go to Category III) Low" rating for Uniqueness; and Vegetated wetland component < 1 acre (do not include upland vegetated buffer); and Percent of possible score < 35% (round to nearest whole #).

OVERALL ANALYSIS AREA RATING: (circle appropriate category based on the criteria outlined above)

11

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						-Omi (revised March 20		
1. Project Name: Sil	lings	BU	<u>pass</u>	2. MDT I	rojec	t#: <u>56 (55)</u>	Control #:	41199
3. Evaluation Date: Mo.	08 Day 10	_Yr. <u>201</u>	4. Evaluato	r(s):	2	<u> </u>	: <u>U)(&V</u>)
6. Wetland Location(s): ii. Approx. Stationir	i. Legal: T ig or Milepost	_(Ú)ør S; s:	R <u>2)</u> EorW	;s <u>/7</u>		<u>frage</u> 5 . Wetlands/Site #(s)	r W; S	; ;
iii. Watershed: _/_	0076		Watershed N	lame, Count	y: <u>U &</u> 500	Monstone Co.	Pompey	S Pillo
7. a. Evaluating Agency b. Purpose of Evaluat 1. Wetlands pote 2. Mitigation we 3. Mitigation we 4. Other	tion: entially affected tlands; pre-con tlands; post-co	l by MDT struction nstructior	project 9. A see			AA): (acres, (visually est (measured, was in the control of the control o	e.g. by GPS [if .ally estimated) asured, e.g. by	GPS [if applies])
10. Classification of We	tiano ano Aqu	auc nabi				Abbreviations: (see manual f	or definitions)	
HGM Class (Brinson)	Class (Cowardin)	Modifie (Cowar	i	tegime %	of AA	HGM Classes: Riverine (R), (
	PEm		99	, ,	07)	Mineral Soil Flats (MSF), Orga Fringe (LF);	nic Soil Flats (C	JSF), Lacustrine
				`		Cowardin Classes: Rock Bott bottom (UB), Aquatic Bed (AB Moss-lichen Wetland (ML), En Shrub Wetland (SS), Forested), Unconsolidat nergent Wetland	ed Shore (US),
						Modifiers: Excavated (E), Imp Drained (PD), Farmed (F), Arti	ounded (I), Dik	ed (D), Partly
						Water Regimes: Permanent / Intermittent (SI), Temporary / E	Perennial (PP)	
11. Estimated relative ab	undance: (of s	similarly c	assified sites v	vithin the sam	е Мајс	or Montana Watershed Basin, see d		
(Circle one)	Unknown	•	Rare	е		Common	Abundant	
				opriate respo	nse	see instructions for Montana-listed r	noxious weed a	nd aquatic
						ant conditions adjacent to (within 50	1000	
Conditions v	vithin AA		Managed in predo is not grazed, hay otherwise convert roads or buildings ANVS cover is ≤1	red, logged, or ted; does not cont s; and noxious we	ain.	Land not cultivated, but may be moderately grazed or hayed or selectively logged; or has been subject to minor clearing; contains few roads or buildings; noxious weed or ANVS cover is \$30%.	subject to substant cleaning, or hydrol	heavily grazed or logged; itial fill placement, grading, ogical alteration; high road ; or noxious weed or ANVS
AA occurs and is managed in pred grazed, hayed, logged, or otherwis roads or occupied buildings; and no \$15%.	e converted; does n	ot contain	low disturban	ce		low disturbance	moderate dist	urbance
AA not cultivated, but may be mode setectively logged; or has been sub clearing, fill placement, or hydrolog roads or buildings; noxious weed o	oject to relatively mir ical alteration; conta r ANVS cover is ≤30	nor ains few 1%.	moderate dist	turbance		moderate disturbance	high disturbar	nce
alteration; high road or building density, or hoxious weed or			high disturbaı			high disturbance	high disturbar	
ii. Prominent noxiou	ıs, aquatic nui	sance, &	other exotic v	egetation sp	ecles	gravel pits, Railroad : Russian clive, hour hat: See above		
13. Structural Diversity: ((based on num	ber of "Co	wardin" veget	ated classes		nt [do not include unvegetated class		ove)
Existing # of "Cowardin"			AA	Initial Rating	€	current management preventing existence of additional vegetated of	lasses?	Modified Rating
>2 (or 2 if	1 is forgeted) o	laceae		Н	NΔ		NA	NA İ

Existing # of "Cowardin" Vegetated Classes In AA	Initial Rating		nt preventing (passive) al vegetated classes?	Modified Rating
≥3 (or 2 if 1 is forested) classes	Н	NA	NA NA	NA
2 (or 1 if forested) classes	М	NA	NA	NA
1 class, but not a monoculture	M	←NO	YES→	(1)
1 class, monoculture (1 species comprises ≥90% of total cover)	L	NA	NA	NA

Comments: has FO +SS but 2201,

MA Habitat for Federally Listed or Proposed Threatened or Endangered Plants or Animals: AA is Documented (Di or Suppedied (S) to contain (circle one based on definitions contained in instructions): Firmary or critical habitat (list species) D S Secondary habitat (list species) D S Incidental habitat (list spe			•	3Eし !	UNI	PEK 1/	MININ	J 10 F	-UN	GHON	5 & V	/ALUES	AS	SESS	MEN	1						
No usable habitat If. Rating (use the conclusions from i above and the matrix below to arrive at [circle] the functional points and rating) If this part of the plant or animals rated \$1, \$2, or \$3 by the Montana Natural Heritage Program: (not including species listed in14A above) 148. Habitat for plant or animals rated \$1, \$2, or \$3 by the Montana Natural Heritage Program: (not including species listed in14A above) 149. Habitat for plant or animals rated \$1, \$2, or \$3 by the Montana Natural Heritage Program: (not including species listed in14A above) 140. Als is Documented (b) or Supperced (5) to contain (circle onn based on definitions contained in instructions): 141. Als is posture to the conclusions from it above and the matrix below to arrive at [circle] the functional points and rating) 142. Als is posture to deciprimary suspirimary dockeeondary suspirimary dockeeondary dockeeo	 AA is Documented Primary or critical h Secondary habitat ((D) or S abitat (I (list spe	Suspec list sp ecies)	cted (S)	ed T	ontain (DS DS	circle o	ne ba	sed o	on defin	itions	containe	d in	······································		100 C	- - V`Z\Y	e. W	bag C	l cario	A CA	rvija rav
Highest Habitat Level doc/primary sus/primary doc/secondary doc/seco	No usable habitat	•				S		C)		O.					(J	-				4,3	<i>d</i>
Functional Points and Rating	ii. Rating (use the cond	dusions	from i	i above	and	the ma	trix bel	ow to	arrive	at [circ	le] the	e function	ial p	oints ar	nd ratir	ng)	1					¬
14B. Habitat for plant or animals rated \$1, \$2, or \$3 by the Montana Natural Heritage Program: (not including species listed in14A above) 1. AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions): Primary or richted habitat (list species) Secondary habitat (list species) No usable habitat 1. Rating (use the conclusions from i above and the matrix below to arrive at [circle] the functional points and rating). 1. Highest Habitat Level 1. State of the conclusions from i above and the matrix below to arrive at [circle] the functional points and rating). 1. Highest Habitat Level 1. State of the conclusions from i above and the matrix below to arrive at [circle] the functional points and rating). 1. Highest Habitat Level 1. State of the conclusions from i above and the matrix below to arrive at [circle] the functional points and rating). 1. Highest Habitat Level 1. ABH	Highest Habitat Level		do	oc/prima	ary	sus/j	oriman	, qc	c/se	condary	SI	us/secon	dary	/ <u>dc</u>	oc/incid	lental	s	us/incid	ental	No	ne	
14.B. Habitat for plant or animals rated \$1, \$2, or \$3 by the Montana Natural Heritage Program: (not including species listed in14A above) 1. AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions): Primary or critical habitat (list species) D S Secondary habitat (list species) No usable habitat 18. Rating (use the conclusions from i above and the matrix below to arrive at [circle] the functional points and rating) Highest Habitat Level doc/primary sus/primary doc/secondary sus/secondary doc/incidental sus/incidental None 19. Species: 19. Functional Points and Rating 1H										BM		.7M			.31			(.11			L	
i. A ki s Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions): Primary or critical habitat (list species) Secondary habitat (list species) No usable habitat ii. Rating (use the conclusions from i above and the matrix below to arrive at [circle] the functional points and rating) Highest Hebitat Level doc/primary sus/primary doc/secondary) sus/secondary doc/incidental sus/incidental None 11	Sources for documented	use (e.	g. obs	ervation	ns, re	ecoras,	etc):															
### Highest Habitat Level doc/primary sus/primary doc/secondary sus/secondary doc/incidental sus/incidental None \$1 Species: Functional Points and Rating 1H	 AA is Documented (Primary or critical ha Secondary habitat (I Incidental habitat (II No usable habitat 	(D) or S abitat (li list spe st spec	uspec ist spe cles) ies)	ted (S) ecies)	to co	ontain (o D S D S D S S	circle o	ne bas	sed o at den	n defini	hour	contained	d in i	nstruct	ions):		s list - -	ed in14	A abov	/e)		
S1 Species: Functional Points and Rating 1H		lusions	1			1		1,000	man a part		~ 1						Т	eue/inc	idental		One.	
S2 and S3 pecies: 9H .7M .6M .5M 2L .1L 0L	•	2atina																		- 11		
Sources for documented use (e.g. observations, records, etc.):	S2 and S3 Species:			.9H			.7M			.6M	- -											
14C. General Wildlife Habitat Rating: 1. Evidence of overall wildlife use in the AA (circle substantial, moderate, or low based on supporting evidence): Substantial (based on any of the following [check]): observations of abundant wildlife #s or high species diversity (during any period) abundant wildlife sign such as scat, tracks, nest structures, garne trails, etc. presence of extremely limiting habitat features not available in the surrounding area interviews with local biologists with knowledge of the AA Moderate (based on any of the following [check]): observations of soathered wildlife groups or individuals or relatively few species during peak periods interviews with local biologists with knowledge of the AA Moderate (based on any of the following [check]): observations of scattered wildlife groups or individuals or relatively few species during peak periods common occurrence of wildlife sign such as scat, tracks, nest structures, garne trails, etc. adequate adjacent upland food sources interviews with local biologists with knowledge of the AA Wildlife habitat features (Working from top to bottom, circle appropriate AA attributes in matrix to arrive at rating. Structural diversity is from #13. Wildlife habitat features (Working from top to bottom, circle appropriate AA attributes in matrix to arrive at rating. Structural diversity is from #13. Wildlife habitat features (Working from top to bottom, circle appropriate AA attributes in matrix to arrive at rating. Structural diversity is from #13.	Sources for documented	use (e.g	g. obse	ervation	is, re	cords,	etc.):	ල්රස	17 m	K c	Cly o	10.04	7	13/2	2011							
Class cover distribution all vegetated classes) Duration of surface vater in ≥ 10% of AA E E E H E E H H E H H M E H M M E H M M E H M M E H M M L L L Bligh disturbance at AA Low	Substantial (based on a observations of aburnature abundant wildlife sign presence of extreme interviews with local observations of scatt common occurrence adequate adjacent uninterviews with local i. Wildlife habitat feature for class cover to be consercent composition of the seasonal/intermittent; T/E Structural diversity (see	ildlife uny of the dant win such a such a such a sly limitir biologis of the ferred win of wildlipland for biologis es (Worsidered a AA (see	e follorildlife as scang habits with following figures of south following figures with the first	the AA wing [ct #s or high tt, tracks intat feat n knowle ng [chea groups c n such urces n knowle rom top y distrib)). Abbr	neck] gh sp s, ne tures edge ck]): to be to be uted, revia eral;	l): pecies (diversit stures, ailable AA s or re- sks, ne- AA circle a ost and r surfa	y (duri game in the atively st stru- pprop	riate a	ny perio, etc. cunding species s, game	d) area durin trails butes getate are as	Minim fer jitt sp int g peak p , etc.	w or le to arse ervio	(based no wild	on any llife ob dlife sig ent upla h local t rating within manen	servation and food biologie Struct 20% of	ons d d soo sts v	luring pources with know diversit	eak us wledge by is fro in term	of the	AA	
all vegetated classes) Ouration of surface water in ≥ 10% of AA				n			Linov	on		<u> </u>	E				Lina			-				
Low disturbance at AA E E E H E E H H E H H M M E H M M E H M M M E H M M M L L L H M L L H M M M M M M M M		D/D			\prod	D/D				D/C	Γ	1		m.r-	Τ	i	\Box	<u> </u>	استوسا		Τ	
Moderate disturbance H H H H H H H M M H M M L L If AA (see #12i) If Bh disturbance at AA	.ow disturbance at AA				-				+		ļ										-	
It AA (see #12)	floderate disturbance								+			-					iVi L					
									L			 	L				L				L.	: :

	III. Rating (use the conclusions from I and II above and the matrix below to arrive at [circle] the functional points and rating)									
l	Evidence of wildlife use (i)		Wildlife habitat feat	ures rating (ii)						
l		Exceptional	High	Moderate	<u> </u>					

			TTHEMOTHER TOUCH TO TAKING (II)						
		Exceptional	High	Moderate	(Low)				
	Substantial	1E	.9H	.8H	.7M				
-	Moderate	.9H	.7M	.5M	(.3L)				
1	Minimal	.6M	.4M	.21	1				

14D. General Fish Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" such that the AA could be used by fish [i.e., fish use is precluded by perched culvert or other barrier, etc.]. If the AA is not used by fish, fish use is not restorable due to habitat constraints, or is not desired from a management perspective [such as fish entrapped in a canal], then circle NA here and proceed to 14E.) Type of Fishery: Cold Water (CW) Warm Water (WW) V Use the CW or WW guidelines in the user manual to complete the matrix Habitat Quality and Known / Suspected Fish Species in AA (use matrix to arrive at [circle] the functional points and rating) Duration of surface Seasonal / Intermittent Temporary / Ephemeral Permanent / Perennial water in AA Aquatic hiding / resting / Adequate Adequate Optimal Adequate Poor Optimal Poor Optimal Poor escape cover Thermal cover optimal / S 0 S S 0 S 0 S 0 S 0 S 0 0 S S 0 suboptimal .7M .3L .8H .7M .6M .5M .9H .8H .7M .6M .5M .4M .6M .5M 4M .3L 1F 9H FWP Tier I fish species **FWP Tier II or Native** .4M .6M .5M .4M .3L .2L .2L .5M .5M .8H .7M 6M 5M 4M .9H .8H .7M .6M Game fish species **FWP Tier III or** .2L .2L .1L .7M .6M .5M .4M .4M .3L .5M .4M .3L .8H .7M .6M .5M .5M 4M Introduced Game fish **FWP Non-Game Tier IV** .4M .3L .3L .2L .2L 21 .2L .1L .1L .1L .5M .4M .4M .3L 4M 4M .5M .5M or No fish species Sources used for identifying fish sp. potentially found in AA: ii. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1) a) Is fish use of the AA significantly reduced by a culvert dike, or other man-made structure or activity or is the waterbody included on the current final MDEQ list of waterbodies in need of TMDL development with listed "Probable Impaired Uses" including cold or warm water fishery or aquatic life support, or do aquatic nuisance plant or animal species (see Appendix E) occur in fish habitat? Y N If yes, reduce score in i above by b) Does the AA contain a documented spawning area or other critical habitat feature (i.e., sanctuary pool, upwelling area, etc.- specify in comments) for native fish or introduced game fish? Y 3 Comments: no fish species known iii. Final Score and Rating: 14E. Flood Attenuation: (Applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, circle NA here and proceed to 14F.) i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating) Entrenched-A, F, G stream Moderately entrenched -Slightly entrenched - C, D) E stream types B stream type types Estimated or Calculated Entrenchment (Rosgen 1994, 1996) <25% 75% 25-75% €25% 75% 25-75% 75% 25-75% % of flooded wetland classified as forested and/or scrub/shrub 1H .9H (6M 8H 7M .5M .4M .3L .2L AA contains no outlet or restricted outlet .9H .8H .5M .7M .6M .4M .1L AA contains unrestricted outlet Entrenchment ratio (ER) estimation - see User's Manual for additional guidance. Entrenchment ratio = (flood-prone width)/(bankfull width) Flood-prone width = estimated horizontal projection of where 2 x maximum bankfull depth elevation intersects the floodplain on each side of the stream. Flood-prone Width 2 x Bankfull Depth Entrenchment ratio Bankfull Width Flood-prone Bankfull width width (ER) Bankfull Depth Entrenched **Moderately Entrenched Slightly Entrenched** ER = 1.0 - 1.4ER = >2.2 ER = 1.41 - 2.2 B stream type F stream type G stream type A stream type C stream type D stream type E stream type ii. Are ≥10 acres of wetland in the AA subject to flooding AND are man-made features which may be significantly damaged by floods located within 0.5

- (N Comments: mile downstream of the AA (circle)? Y
- 14F. Short and Long Term Surface Water Storage: (Applies to wetlands that flood or pond from overbank or in-channel flow, precipitation, upland surface flow, or groundwater flow. If no wetlands in the AA are subject to flooding or ponding, circle NA here and proceed to 14G.)
- i. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; and T/E = temporary/ephemeral [see instructions for further definitions

Estimated maximum acre feet of water contained in wetlands within the AA that are subject to periodic flooding or ponding	5	5 acre fee	et	1.1	to 5 acre	feet	i no se	≤1 acre foo	tid
Duration of surface water at wetlands within the AA	P/P	S/I	T/E	P/P	S/I	T/E	P/P	S/I	T/E
Wetlands in AA flood or pond ≥ 5 out of 10 years	1H	.9H	.8H	.8H	.6M	.5M	.4M	.3L	.2L
Wetlands in AA flood or pond < 5 out of 10 years	(.9H)	.8H	.7M	.7M	.5M	.4M	.3L	.2L	1L-

14G. Sediment/Nutrient/Toxicant Retention and Removal: (Applies to wetlands with potential to receive sediments, nutrients, or toxicants through influx of surface or ground water or direct input. If no wetlands in the AA are subject to such input, circle **NA** here and proceed to 14H.)

Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = tow]) Sediment, nutrient, and toxicant Waterbody on MDEQ list of waterbodies in need of input levels within AA TMDL development for "probable causes" related to AA receives or surrounding land use with potential to sediment, nutrients, or toxicants or AA receives or deliver levels of sediments, nutrients, or compounds surrounding land use with potential to deliver high levels at levels such that other functions are not of sediments, nutrients, or compounds such that other functions are substantially impaired. Major substantially impaired. Minor sedimentation, sources of nutrients or toxicants, or signs of eutrophication sedimentation, sources of nutrients or toxicants, or signs present. of eutrophication present. % cover of wetland vegetation in AA ≥ 70% 70% Evidence of flooding / ponding in AA Yes Yes No Yes Nο No Yes No AA contains no or restricted outlet 1H .8H .7M .5M C5M 4M 31 .2L AA contains unrestricted outlet .9H .7M .6M .4M 4M .3L

Comments: de to around pits

14H Sediment/Shoreline Stabilization: (Applies only if AA occurs on or within the banks or a river, stream, or other natural or man-made drainage, or on the shoreline of a standing water body which is subject to wave action. If 14H does not apply, circle NA here and proceed to 14I.)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)

% Cover of <u>wetland</u> streambank or	Duratio	n of surface water adjacent to rooted ve	getation
shoreline by species with stability ratings of ≥6 (see Appendix F).	Permanent / Perennial	Seasonal / Intermittent	Temporary / Ephemeral
≥ 65%	1H	.9H	.7M
35-64%	.7M	.6M	.5M
< 35%	.3L	.2L	.1L

Comments:

14I. Production Export/Food Chain Support:

i. Level of Biological Activity (synthesis of wildlife and fish habitat ratings [circle])

General Fish Habitat	General Wildlife Habitat Rating (14C.iii.)							
Rating (14D.iii.)	E/H	M	Ľ٦					
E/H	Н	H	M					
М.	Н	М	M					
(12)	M	M	\bigcirc					
N/A	Н	M	L					

ii. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Factor A = acreage of vegetated wetland component in the AA; Factor B = level of biological activity rating from above (141.i.); Factor C = whether or not the AA contains a surface or subsurface outlet; the final three rows pertain to duration of surface water in the AA, where P/P, S/I, and T/E are as previously defined, and A = "absent" [see instructions for further definitions of these terms].)

1		14 141 141		TINOTTO A	4. 99.0													
Α		Vegeta	ted com	ponent:	>5 acres	2	Vegetated component 1-5 acres				Vegetated component <1 acre							
В	Hi	gh	Mod	erate	(L	ow)	Н	igh	Mod	erate	Lo	ow.	Hi	gh	Mod	erate	Lo	ow .
С	Yes	No	Yes	No	(Yes)	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
(P/P)	1H	.7M	.8H	.5M	€6M	.4M	.9H	.6M	.7M	.4M	.5M	.3L.	.8H	.6M	.6M	.4M	.3L	.2L
S/I	.9H	.6M	.7M	.4M	.5M	.3L	.8H	5M	.6M	.3L	.4M	.2L	.7M	.5M	.5M	.3L	.3L	.2L
T/E/	.8H	.5M	.6M	.3L	.4M	.2L	.7M	.4M	.5M	.2L	.3L	41	.6M	.4M	414	21	21	41
A	.011	.JIVI	.OIVI	.0L	.4141	، حد	.7101	.4171	WiG.	.2L	.3∟		.OIVI	.4171	.4M	.2L	.2L	,1L

iv. Final Score and Rating: Comments:	
14J. Groundwater Discharge/Recharge: (check the appropriate indi	cators in i & ii below)
I. Discharge Indicators The AA is a slope wetland Springs or seeps are known or observed Vegetation growing during dormant season/drought Wetland occurs at the toe of a natural slope Seeps are present at the wetland edge AA permanently flooded during drought periods Wetland contains an outlet, but no inlet Shallow water table and the site is saturated to the surface Other:	ii. Recharge Indicators Permeable substrate present without underlying impeding layer Wetland contains inlet but no outlet Stream is a known 'losing' stream; discharge volume decreases Other:

Comments:

14K, Uniqueness:

i. Rating (working from top to bottom	, use the matri	x below to arr	rive at [circle]	the function	al points and	rating)				
Replacement potential	AA contain or matur wetland o	s fen, bog, wa e (>80 yr-old) r plant associa S1" by the MT	arm springs forested ation listed	AA does i rare type (#13) i	not contain pro es and structu s high or cont stion listed as MTNHP	eviously cited and diversity tains plant "S2" by the	AA does not contain previously cited rare types or associations and structural diversity (#13) is low-moderate			
Estimated relative abundance (#11)	гаге	common	abundant	rare	common)	abundant	rare (common	abundant	
Low disturbance at AA (#12i)	1H	.9H	.8H	.8H	.6M	.5M	.5M	,4M	.3L	
Moderate disturbance at AA (#12i)	.9H	.8H	.7M	.7M	.5M	.4M	.4M	3L	,2L	
High disturbance at AA (#12i)	.8H	.7M	.6M	.6M	,4M	.3L	.3L	(.2L)	1L	

Comments:

14L. Recreation/Education Potential: (afford	"bonus" points if AA provides recreation or education opportunity)	
i. Is the AA a known or potential rec./ed. site	: (circle) (N (if 'Yes' continue with the evaluation; if 'No' then circle NA here and proceed to the	ne
overall summary and rating page)	/	
ii. Check categories that apply to the AA: _	_ Educational/scientific study; Consumptive rec.; Non-consumptive rec.;Other	
iii Rating (use the matrix below to arrive at Ic	rcle] the functional points and rating)	

Known or Potential Recreation or Education Area	Known	Potential
Public ownership or public easement with general public access (no permission required)	, 2H	.15H
Private ownership with general public access (no permission required)	.15H	.1M
Private or public ownership without general public access, or requiring permission for public access	.1M	(.05L)

Comments: AA includes fenced Exxon wildlife area,

General Site Notes			
General Site Notes Expansua uetto	nd magaic	- 1 Caranos	160 F Tra
		7 52	¥
	·····		
	•		
	,		
<u></u>			
		,,	

FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #(S):

W	Louis	V
	7	

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: (Actual Points x Estimated AA Acreage)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	1		1		
B. MT Natural Heritage Program Species Habitat	m	.6	1		4
C. General Wildlife Habitat	2	3	1		
D. General Fish Habitat		3	1		
E. Flood Attenuation	m	.6			Ŕ
F. Short and Long Term Surface Water Storage	H	. 9			Å.
G. Sediment/Nutrient/Toxicant Removal	m	,5	1		
H. Sediment/Shoreline Stabilization		opper a tradition of the contract of the contr	MA		
Production Export/Food Chain Support	m	,6	1		A)
J. Groundwater Discharge/Recharge	***************************************		NA		
K. Uniqueness	1	. 2	1 '		
L. Recreation/Education Potential (bonus points)	1	,05	NA		
Totals:		4.15	9		
Percent of Possible Score			46 %		

Category I Wetland: (must satisfy one of the following criteria; otherwise go to Category II) Score of 1 functional point for Listed/Proposed Threatened or Endangered Species; or Score of 1 functional point for Uniqueness; or Score of 1 functional point for Flood Attenuation and answer to Question 14E.ii.is "yes"; or Percent of possible score > 80% (round to nearest whole #).
Category II Wetland: (Criteria for Category I not satisfied and meets any one of the following criteria; otherwise go to Category IV) Score of 1 functional point for MT Natural Heritage Program Species Habitat; or Score of .9 or 1 functional point for General Wildlife Habitat; or Score of .9 or 1 functional point for General Fish Habitat; or "High" to "Exceptional" ratings for both General Wildlife Habitat and General Fish/Aquatic Habitat; or Score of .9 functional point for Uniqueness; or Percent of possible score > 65% (round to nearest whole #).
Category III Wetland: (Criteria for Categories I, II, or IV not satisfied)
Category IV Wetland: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; otherwise go to Category III) "Low" rating for Uniqueness; and Vegetated wetland component < 1 acre (do not include upland vegetated buffer); and Percent of possible score < 35% (round to nearest whole #).

MDT Montana Wetland Assessment Form (revised March 2008)

1. Project Name: <u>Ri</u>	Hing P	LAGORE	2. M	DT Projec	x#: <u>5 6(55)</u>	Control #: <u>4199</u>			
3. Evaluation Date: Mo.	<u> </u>	7Yr <u>20L</u>	4. Evaluator(s):	<u>. Sh</u>	5 . Wetlands/Site #(s)	: <u> </u>			
	i.Legal: T 🚅	(N)or S;			;TNorS;REc				
iii. Watershed: ↓	00100	227	Watershed Name, Co	ounty: /)	pper Yollowstona	Pompeys Pillan			
7. a. Evaluating Agency b. Purpose of Evaluat 1. Wetlands pote	tion:	;		s ize: (total	acres) (visually es(measured,	timated) each e.g. by GPS [if applies])			
2 Mitigation we 3 Mitigation we	tlands; pre-cor tlands; post-co	struction nstruction	9. Assessmen see instruction		AA): (acres, ermining AA) (wis				
10. Classification of We	tland and Aqu	atic Habi	tiny wellar itats in AA not c	nds 0 <u>onrve</u>	hwy 312/hwy 87 intersted, irrigation ditol	echin, culverted			
HGM Class (Brinson)	Class	Modifie	· I	% of AA	Appreviations: (see manual)	or aetinitions)			
	(Cowardin)	(Cowar	din)		HGM Classes: Riverine (R), Mineral Soil Flats (MSF), Orga	Depressional (D), Slope (S), inic Soil Flats (OSF), Lacustrine			
	EM)	\\ \S_\/\frac{1}{2}	57	70%	Fringe (LF); Cowardin Classes: Rock Bot	tom (DB). Unconcollidated			
		<u> </u>			bottom (UB), Aquatic Bed (AB				
					Moss-tichen Wetland (ML), En Shrub Wetland (SS), Forested				
	<u>SS</u>			> 20	Modifiers: Excavated (E), Imp	ounded (I), Diked (D), Partly			
	1-0			>10	Drained (PD), Farmed (F), Arti Water Regimes: Permanent /	` ·			
					Intermittent (SI), Temporary / B				
	•	similarly c		same Maj	or Montana Watershed Basin, see d	and the same of th			
(Circle one)	Unknown		Rare		Common (Abundant			
				esponse –	see instructions for Montana-listed r	noxious weed and aquatic			
raisa	nce vegetation	species (/	Predomir	ant conditions adjacent to (within 50	0 feet of) AA			
Conditions v	vithin AA		Managed in predominantly na is not grazed, hayed, logged, otherwise converted; does no roads or buildings; and noxiou ANVS cover is ≤15%.	or t contain	Land not cultivated, but may be moderately grazed or hayed or selectively logged; or has been subject to minor clearing; contains few roads or buildings; noxious weed or ANVS cover is \$30%.	Land cultivated or heavily grazed or logged; subject to substantial fill placement, grading, cleaning, or hydrological alteration; high road or building density; or noxious weed or ANVS cover is >30%.			
AA occurs and is managed in pred- grazed, hayed, logged, or otherwis- roads or occupied buildings; and no ≤15%.	e converted; does n	ot contain	low disturbance		low disturbance	moderate disturbance			
AA not cultivated, but may be mode selectively logged; or has been sub clearing, fill placement, or hydrolog roads or buildings; noxious weed or	eject to relatively minical alteration; contr	nor ains few	moderate disturbance		moderate disturbance	high disturbance			
AA cultivated or heavily grazed or le substantial fill placement, grading, alteration, high road or building de ANVS cover is >30%.	clearing, or hydrolog nsity; or noxious we	gical ed or	high disturbance		high disturbance	high disturbance			
Comments: (types of	f disturbance, i	ntensity, s	season, etc.): Highwo	autinte	reaction	**************************************			
II. Prominent noxiou	ıs, aquatic nui	sance, &	other exotic vegetatio	n species	: NA				
ili. Provide brief des	criptive sumn	nary of A	A and surrounding land	d use/hab	ltat: transpotation, ac	priculture, commend			
13. Structural Diversity: (based on num	ber of "Co	owardin" <i>vegetated</i> class	ses presei	nt Ido not include unvegetated class	esl. see #10 above)			

13. Structural Diversity: (based on number of "Cowardin" veget	ated classes	<u>present [do not include unve</u>	getated classes], see #10 a	bove)
Eviation # of (Coveration) Voyateted Classes In AA	Initial Rating	is current management existence of additional		Modified Rating
Existing # of "Cowardin" Vegetated Classes in AA	Rating			Mounted Kating
≥3 (or 2 if 1 is forested) classes	<u> Н</u>	NA	NA NA	NA NA
2 (or 1 if forested) classes	M	NA	NA NA	NA NA
1 class, but not a monoculture	(M)	←NO	∕YES-→	(L)
1 class, monoculture (1 species comprises ≥90% of total cover)	L	NA	NA NA	NA

Comments: contains thrubs these but 220%

SECTION PERTAINING to FUNCTIONS & VALUES ASSESSMENT

i. AA is Documented Primary or critical is Secondary habitat Incidental habitat (No usable habitat	l (D) or s habitat ((list sp	Suspec list sp ecies)	cted (S) recies)	ed 1 to o	Threate ontain (D S D S D S	ined o	r Endar	ngei ed d	red Plar on defini	ts or tions o	Animals containe	s: d in	instruc	tions):		- - -				
ii. Rating (use the con	clusions	from	i above	and	the ma	trix bel	ow to a	rrive	at [circ	e] the	e function	nal p	oints a	nd ratir	ng)			••••		
Highest Habitat Level		de	oc/prima	ıry	sus/	priman	/ doc	/se	condary	sı	us/secon	dar	y dia	oc/incic	iental	s	us/incid	ental	Nor	ne
Functional Points and			1H			.9H			зм		.7M			.31			ا1,		(o	
14B. Habitat for plant of i. AA is Documented Primary or critical h Secondary habitat (Incidental habitat (I No usable habitat	or anima (D) or Spabitat (I	als rat Suspectist species)	ed \$1 , a	\$2, c	or S3 b	y the ₹	Montana ne basa	a Na ed o	atural H	eritag ions c	ge Progra contained	am:	(not ind instruct	cluding ions):	specie	s list	ted in14	A abov	re)	
ii. Rating (use the cond	clusions	from i	above	and:	⋰ the mat	rix bel	ow to ar	rrive	at fcircl	el the	function	al p	oints ar	nd ratin	ια)					
Highest Habitat Level		1	c/primar			primar			econda		sus/seco				idental	T	sus/inc	idental	N	lone
S1 Species:	····		1H			.8H			.7M		.61	v1			2L			1L.		OL.
Functional Points and I	Rating	+-						***********												
Functional Points and I		<u> </u>	.9H		<u> </u>	.7M			.6M		.51	VI			2t.			1L.		0L
14C. General Wildlife Fi. Evidence of overall wildlife Fi. existential (based on a observations of abute abundant wildlife sign presence of extreme interviews with local moderate (based on any observations of scale common occurrence adequate adjacent uninterviews with local ii. Wildlife habitat feature	vildlife to any of the indant was and any of the independent of the in	use in se follo iddife is as sca ng hat sts with followi iddife i life sig ood so sts with rking f	the AA wing [cf #s or high at, track- bitat feal h knowle ing [che- igroups of n such burces h knowle from top	neck gh sp s, ne tures edge ck]): or inc as so edge	l): becies of st struct a not ave of the dividual cat, trace of the	diversit dures, ailable AA s or re cks, ne AA	y (durin game to in the s latively st struc	ng ar rails surro few ture	ny perio , etc. ounding species s, game	i) area durin trails,	Minin fer litt sp int ng peak p	w or or or or or or or or or or or or or	(based no wild	on any tife ob dife sig ent upl h local	servatiogn and food biologis	d so sts v	vith kno	eak üs wledge	of the	AA
For class cover to be con percent composition of th seasonal/intermittent; T/E Structural diversity (see	e AA (s	ee #10). Abbi	evia	tions fo	r surfa	ce wate	er du	ırations	are as	s follows	: P/I	= peri	manen	/perenr	eac nial;	h other S/I =	in term	s of the	ir.
#13)	ļ			Hi	gh						٨	Mod	erate					Lov	بر لرا	
Class cover distribution (all vegetated classes)		Eve	en			Unev	en			Eve	en			Unev	en		·	Eve	n	
Duration of surface water in ≥ 10% of AA	P/P	S/I	T/E	Α	P/P	S/I	T/E	Α	P/P	S/I	T/E	A	P/P	S/I	T/E	Α	P/P	S/I	T/E	A
Low disturbance at AA (see #12i)	E	Ε	Е	н	E	E	Н	Н	E	Н	Н	М	E	Н	М	М	E	Н	М	М
Moderate disturbance at AA (see #12i)	Н	Н	Н	н	Н	Н	Н	М	Н	Н	М	М	Н	М	М	L	Н	м	L	L
High disturbance at AA (see #12i)	М	М	М	L	М	М	L	L	М	M	L	L	М	L	L	L	L	①	L	L

iii. Rating (use the conclusion	ns from i and ii above and the ma	itrix below to arrive at [circle] t	he functional points and rating)								
Evidence of wildlife use (i)	Wildlife habitat features rating (ii)										
	Exceptional	High	Moderate	(Low)							
Substantial	1E	.9H	.8H	.7M							
Moderate	.9H	.7M	,5M	.3L							
Minimal	.6M	.4M	.2L	(.1L.)							

14D. General Fish Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" such that the AA could be used by fish [i.e., fish use is precluded by perched culvert or other barrier, etc.]. If the AA is not used by fish, fish use is not restorable due to habitat constraints, or is not desired from a management perspective [such as fish entrapped in a canal], then circle NA here and proceed to 14E.) Type of Fishery: Cold Water (CW) Warm Water (WW)____ Use the CW or WW guidelines in the user manual to complete the matrix Habitat Quality and Known / Suspected Fish Species in AA (use matrix to arrive at [circle] the functional points and rating) Duration of surface Seasonal / Intermittent Temporary / Ephemeral Permanent / Perennial water in AA Aquatic hiding / resting / Optimal **Optimal** Adequate Adequate Poor Adequate Poor Optimal Poor escape cover Thermal cover optimal / S S 0 S 0 S 0 S 0 0 S 0 S 0 S 0 S 0 suboptimal .6M .8H .7M .6M .5M .4M .3L .3L 1E .9H .8H 7M .5M 9H .7M .6M .5M .4M FWP Tier I fish species **FWP Tier II or Native** .2L .2L .9H H8. .7M .6M .5M .5M .8H .7M 6M .5M 4M .4M .6M .5M .4M .3L Game fish species **FWP Tier III or** .3L .2L .2L .1L 4M .3L .5M .4M .8H .7M .6M .5M .5M .4M .7M .6M .5M .4M Introduced Game fish **FWP Non-Game Tier IV** .2L .2L .2L .2L .1L .1L .1L .5M .5M .5M .4M .4M .3L .4M .4M .4M .3L .3L or No fish species Sources used for identifying fish sp. potentially found in AA: ii. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1)
a) Is fish use of the AA significantly reduced by a culvert, dike, or other man-made structure or activity or is the waterbody included on the current final MDEQ list of waterbodies in need of TMDL development with listed "Probable Impaired Uses" including cold or warm water fishery or aquatic life support, or do aquatic nuisance plant or animal species (see Appendix E) occur in fish habitat? YN If yes, reduce score in i above by b) Does the AA contain a documented spawning area or other critical habitat feature (i.e., sanctuary pool, upwelling area, etc.- specify in comments) for native fish or introduced game fish? Y N If yes, add 0.1 to the adjusted score in i or iia above: iii. Final Score and Rating: NAComments: 14E. Flood Attenuation: (Applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, circle (NA here and proceed to 14F.) i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating) Flood-prone width = estimated horizontal projection of where 2 x maximum bankfull depth elevation intersects the floodplain on each side of the stream.

	Slight	ly entrench	ed - C,	Moder	ately entren	ched -	Entrenched-A, F, G stream			
Estimated or Calculated Entrenchment (Rosgen 1994, 1996)	994, 1996) D, E stream types		E	stream typ	e	types				
% of flooded wetland classified as forested and/or scrub/shrub	75%	25-75%	<25%	75%	25-75%	<25%	75%	25-75%	<25%	
AA contains no outlet or restricted outlet	ai1H	.9H	.6M	.8H	.7M	.5M	.4M	.3L	.2L	
AA contains unrestricted outlet	.9H	.8H	.5M	.7M	.6M	.4M	.3L	.2L	.1L	
Entrenchment ratio (FR) estimation - see User's Manual for a	dditional	guidance. I	Entrenchr	nent ratio	= (flood-pr	one width	n)/(bankful	I width)		

Flood propo Popularill Entranchment ratio			2 Paul Call Daniel	Flood-prone Wid	dth
Flood-prone width	Bankfull width	Entrenchment ratio (ER)	2 x Bankfull Depth	Bankfull Width	
		ntrenched :>2.2	Moderately Entrenched ER = 1.41 - 2.2	Entrenched ER = 1.0 – 1.4	

	Slightly Entrench ER = >2.2	ned	Moderately Entrenched ER = 1.41 – 2.2		Entrenched ER = 1.0 – 1.4	
C stream type	D stream type	E stream type	B stream type	A stream type	F stream type	G stream type
						—

- ii. Are ≥10 acres of wetland in the AA subject to flooding AND are man-made features which may be significantly damaged by floods located within 0.5 mile downstream of the AA (circle)? Y N Comments:
- 14F. Short and Long Term Surface Water Storage: (Applies to wetlands that flood or pond from overbank or in-channel flow, precipitation, upland surface flow, or groundwater flow. If no wetlands in the AA are subject to flooding or ponding, circle NA here and proceed to 14G.)
- i. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; and T/E = temporary/ephemeral [see instructions for further definitions of these terms)

Estimated maximum acre feet of water contained in wetlands within the AA that are subject to periodic flooding or ponding		>5 acre fee	t	1.1	to 5 acre f	eet	≤1 acre foot			
Duration of surface water at wetlands within the AA	P/P	S/I	T/E	P/P	S/I	T/E	P/P	S/I	T/E	
Wetlands in AA flood or pond ≥ 5 out of 10 years	1H	.9H	.8H	.8H	.6M	.5M	.4M	.3L	.2L	
Wetlands in AA flood or pond < 5 out of 10 years	.9H	.8H	.7M	.7M	.5M	.4M	.3L	.2L	.1L	

14G. Sediment/Nutrient/Toxicant Retention and Removal: (Applies to wetlands with potential to receive sediments, nutrients, or toxicants through influx of surface or ground water or direct input. If no wetlands in the AA are subject to such input, circle NA here and proceed to 14H.)

Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low]) Sediment, nutrient, and toxicant Waterbody on MDEQ list of waterbodies in need of input levels within AA TMDL development for "probable causes" related to AA receives or surrounding land use with potential to sediment, nutrients, or toxicants or AA receives or deliver levels of sediments, nutrients, or compounds surrounding land use with potential to deliver high levels at levels such that other functions are not of sediments, nutrients, or compounds such that other substantially impaired. Minor sedimentation, sources functions are substantially impaired. Major of nutrients or toxicants, or signs of eutrophication sedimentation, sources of nutrients or toxicants, or signs present. of eutrophication present. % cover of wetland vegetation in AA ≥ 70% < 70% ≥ 70% < 70% Yes Evidence of flooding / ponding in AA No Yes Yes No Nο Yes Nο AA contains no or restricted outlet 1H .8H .7M .5M .5M .4M 31 .2L AA contains unrestricted outlet .9H .7M 4M .4M .3L Comments:

14H Sediment/Shoreline Stabilization: (Applies only if AA occurs on or within the banks or a river, stream, or other natural or man-made drainage, or on the shoreline of a standing water body which is subject to wave action. If 14H does not apply, circle **NA** here and proceed to 14L)

i. Rating (working from top to bottom, use the matrix below to arrive at foircle! the functional points and rating)

% Cover of wetland streambank or	Dura	tion of surface water adjacent to rooted vege	etation
shoreline by species with stability ratings.of ≥6 (see Appendix F).	Permanent / Perennial	Seasonal / Intermittent	Temporary / Ephemeral
€ 65%	1H	(He.)	.7M
35-64%	.7M	.6M	.5M
< 35% Comments; small collariosoci	3L ,	.2L	.11.

N.

14I. Production Export/Food Chain Support:

Seeps are present at the wetland edge AA permanently flooded during drought periods Wetland contains an outlet, but no injet

Other:

Shallow water table and the site is saturated to the surface

i. Level of Biological Activity (synthesis of wildlife and fish habitat ratings [circle])

General Fish Habitat	General Wildlife Habitat Rating (14C.iii.)								
Rating (14D.iii.)	E/H	М	(L)						
E/H	Н	Н	М						
M	н	M	М						
L	M	M	L.						
(N/A)	Н	M	(L)						

ii. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Factor A = acreage of vegetated wetland component in the AA; Factor B = level of biological activity rating from above (14l.i.); Factor C = whether or not the AA contains a surface or subsurface outlet; the final three rows pertain to duration of surface water in the AA, where P/P, S/I, and T/E are as previously defined, and A = "absent" [see instructions for further definitions of these terms].)

	Vegeta	ted com	ponent >	5 acres		Vegetated component 1-5 acres				Vegetated component <1 acre							
<u>Hi</u>	gh	Mod	erate	L.	ow .	Hi	gh	Mod	erate	Lo)W	Н	gh	Mod	erate	7)W
Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	(Yes)	No
1H	.7M	.8H	.5M	.6M	.4M	.9∺	.6M	.7M	.4M	.5M	.3L	.8H	.6M	.6M	.4M	.3L	.2L
.9H	.6M	.7M	.4M	.5M	.3L	.8H	.5M	.6M	.3L	.4M	.2L	.7M	.5M	.5M	.3L	-	.2L
.8H	.5M	.6M	.3L	.4M	.2L	.7M	.4M	.5M	.2L.	.3L.	.1L	.6M	.4M	.4M	.2L	.2L	.1L
	Yes 1H .9H	High Yes No 1H .7M .9H .6M	High Mod Yes No Yes 1H .7M .8H .9H .6M .7M	High Moderate Yes No Yes No 1H .7M .8H .5M .9H .6M .7M .4M	High Moderate L Yes No Yes No Yes 1H .7M .8H .5M .6M .9H .6M .7M .4M .5M	Yes No Yes No Yes No 1H .7M .8H .5M .6M .4M .9H .6M .7M .4M .5M .3L	High Moderate Low High Yes No Yes No Yes 1H .7M .8H .5M .6M .4M .9H .9H .6M .7M .4M .5M .3L .8H	High Moderate Low High Yes No Yes No Yes No 1H .7M .8H .5M .6M .4M .9H .6M .9H .6M .7M .4M .5M .3L .8H .5M	High Moderate Low High Mod Yes No Yes No Yes No Yes 1H .7M .8H .5M .6M .4M .9H .6M .7M .9H .6M .7M .4M .5M .3L .8H .5M .6M	High Moderate Low High Moderate Yes No Yes Yes No Yes No Yes No Yes Yes No Yes Moderate Low High Moderate Lo Yes No Yes Yes Yes Yes Yes <td< th=""><th>High Moderate Low High Moderate Low Yes No Yes Yes No Yes Yes Yes Yes Yes Yes Yes Yes</th><th>High Moderate Low High Moderate Low High Yes No Yes Yes No Yes <</th><th>High Moderate Low High Moderate Low High Yes No Yes Yes No Yes Yes Yes Yes Yes Yes Yes</th><th>High Moderate Low High Moderate Low High Moderate Yes No Yes Yes No Yes No Yes No Yes Yes Yes No Yes Yes Yes Yes Yes Yes</th><th>High Moderate Low High Moderate Low High Moderate Yes No Yes Yes Yes</th><th>High Moderate Low High Moderate Low High Moderate Low High Moderate CL Yes No Yes</th></td<>	High Moderate Low High Moderate Low Yes No Yes Yes No Yes Yes Yes Yes Yes Yes Yes Yes	High Moderate Low High Moderate Low High Yes No Yes Yes No Yes <	High Moderate Low High Moderate Low High Yes No Yes Yes No Yes Yes Yes Yes Yes Yes Yes	High Moderate Low High Moderate Low High Moderate Yes No Yes Yes No Yes No Yes No Yes Yes Yes No Yes Yes Yes Yes Yes Yes	High Moderate Low High Moderate Low High Moderate Yes No Yes Yes Yes	High Moderate Low High Moderate Low High Moderate Low High Moderate CL Yes No Yes	

iii. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1.) Vegetated Upland Buffer (VUB): Area with ≥ 30% plant cover, ≤ 15% noxious weed or ANVS cover, and that is not subjected to periodic mechanical mowing or clearing (unless for weed control).
a) Is there an average ≥ 50 foot-wide vegetated upland buffer around ≥ 75% of the AA circumference? Y If yes, add 0.1 to the score in ii above and adjust rating accordingly: Comments: and use agricultural, highway tag use in buffer iv. Final Score and Rating: 14J. Groundwater Discharge/Recharge: (check the appropriate indicators in i & ii below) 1. Discharge Indicators ii. Recharge Indicators The AA is a slope wetland Permeable substrate present without underlying impeding layer Springs or seeps are known or observed Wetland contains inlet but no outlet Vegetation growing during dormant season/drought Stream is a known 'losing' stream; discharge volume decreases Wetland occurs at the toe of a natural slope Other:__

4

Comments:

14K. Uniqueness:

i. Rating (working from top to bottom,	uco the matri	v helow to ard	ive at (circle)	the function	al points and	rating)			
Replacement potential	AA contain or matur wetland o	s fen, bog, wa e (>80 yr-old) r plant associa 51" by the MT	rm springs forested ation listed	rare type (#13) is	not contain press and structures high or contain tion listed as MTNHP	ral diversity tains plant "S2" by the	cited ra and str	re types or a uctural diver low-moder	
Estimated relative abundance (#11)	rare	common	abundant	rare	common	abundant	rare	common	abundant
	1H	.9H	8H	.8H	.6M	.5M	.5M	.4M	.3L
Low disturbance at AA (#12i)	.9H	.8H	.7M	.7M	.5M	.4M	.4M	.3L	.2L
Moderate disturbance at AA (#12i)			.6M	6M	.4M	.3L	.3L	.2L	(.1L)
High disturbance at AA (#12i)	H8	7M	, Olvi	.0(1)	1 111	L.,	<u></u>		· ·

Comments:

 14L. Recreation/Education Potential: (affords "bonus" points if AA provides recreation or education opportunity) i. is the AA a known or potential rec./ed. site: (circle) Y N (if 'Yes' continue with the evaluation; if 'No' then circle NA here and proceed to the overall summary and rating page) ii. Check categories that apply to the AA: Educational/scientific study; Consumptive rec.; Non-consumptive rec.; Other iii. Rating (use the matrix below to arrive at [circle] the functional points and rating)
Known Potential Recreation or Education Area Known Potential

Charling Amo	Known	Potential
Known or Potential Recreation or Education Area	.2H	.15H
Public ownership or public easement with general public access (no permission required)	.15H	.1M
Private ownership with general public access (no permission required)	.1M	.05L
Private or public ownership without general public access, or requiring permission for public access		

General Site	Notes irriarion ditakes - end use agriculture	
1 4- Z -	Notes irriaction ditabes - end use agriculture -> parstna those Mahmay intersection, No water in withing y	
	No water in within 181	
	adl small isplated untland	
AH -	7 disch to large wetlands achoicle of AA	_
		_
		_
		_
		_

FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #(S):

	~~			./	
Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: (Actual Points x Estimated AA Acreage)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	1		1,		
B. MT Natural Heritage Program Species Habitat	<u> </u>	0	1 ،		
C. General Wildlife Habitat	1		· •		
D. General Fish Habitat			NA		
E. Flood Attenuation			NA		
F. Short and Long Term Surface Water Storage			MA		
G. Sediment/Nutrient/Toxicant Removal			NA-		
H. Sediment/Shoreline Stabilization	<u> </u>	.9			Á
Production Export/Food Chain Support	1	, 3	11		k
J. Groundwater Discharge/Recharge		•	NA		
K. Uniqueness	1		1		
L. Recreation/Education Potential (bonus points)			NA		
Totals:		1.4	6		
Percent of Possible Score			23 %	***************************************	5

Dec actional Motes - irr ditaly
Category I Wetland: (must satisfy one of the following criteria; otherwise go to Category II) Score of 1 functional point for Listed/Proposed Threatened or Endangered Species; or Score of 1 functional point for Uniqueness; or Score of 1 functional point for Flood Attenuation and answer to Question 14E.ii is "yes"; or Percent of possible score > 80% (round to nearest whole #).
Category II Wetland: (Criteria for Category I not satisfied and meets any one of the following criteria; otherwise go to Category IV) Score of 1 functional point for MT Natural Heritage Program Species Habitat; or Score of .9 or 1 functional point for General Wildlife Habitat; or Score of .9 or 1 functional point for General Fish Habitat; or "High" to "Exceptional" ratings for both General Wildlife Habitat and General Fish/Aquatic Habitat; or Score of .9 functional point for Uniqueness; or Percent of possible score > 65% (round to nearest whole #).
Category III Wetland: (Criteria for Categories I, II, or IV not satisfied)
Category IV Wetland: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; otherwise go to Category III) "Low" rating for Uniqueness; and Vegetated wetland component < 1 acre (do not include upland vegetated buffer); and Percent of possible score < 35% (round to nearest whole #).

