

## US 93 PETERSON MITIGATION SITE

### **Project Overview**

**MDT Project # NH-5-2(122)31 UPN# 1744**

**Watershed:** Watershed #3 – Lower Clark Fork

**Monitoring Year:** 2023

**Years Monitored:** 15<sup>th</sup> year of monitoring (3<sup>rd</sup> year after adaptive management actions in 2020)

**Corps Permit Number:** NWO-2005-90-185

**Monitoring Conducted By:** Confluence Consulting Inc

**Dates Monitoring Was Conducted:** June 21-22, 2023

### **Purpose of the Approved Project:**

US 93 Peterson is one of five mitigation sites developed in cooperation with the permitting and natural resources staff from the Confederated Salish and Kootenai Tribes (CSKT) of the Flathead Nation to mitigate for wetland impacts associated with eight segments of the US 93 Evaro-to-Polson highway reconstruction project by the Montana Department of Transportation (MDT). This report assesses the US 93 Peterson site, that due to adaptive management actions in 2020, has not met required mitigation goals and objectives as determined by the US Army Corps of Engineers (USACE) and the CSKT Shoreline Protection Program. The 2004 wetland mitigation plan provided wetland mitigation concepts, identified wetland community types targeted for establishment, and calculated the wetland mitigation credits expected to be obtained from each onsite mitigation area. At the US 93 Peterson site, MDT was to establish mitigation for wetland impacts regulated by the USACE and the CSKT. This site was to provide 1.31 acres of CSKT mitigation credit and 2.39 acres of Corps mitigation credit (See Table 1-2 in 2017 Monitoring Report <https://www.mdt.mt.gov/publications/brochures/wetland-mitigation.aspx>).

### **Site Location:**

**Latitude:** 47.361717 **Longitude:** -114.099755

**County:** Lake County **Nearest Town:** St. Ignatius, MT

**Map Included:** Figure #1 on page 7.

**Mitigation Site Construction Started:** 2004 **Construction Ended:** 2007

**Specific recommendations for any additional corrective actions:** Repairs to the failing outfall and log crib structures installed in 2020. Weed management should continue.

**Anticipated Wetland Credit Acres:** USACE – 2.39, CSKT – 1.31

**Wetland Credit Acres Generated to Date:** USACE – 3.04, CSKT – 1.34

### **Previous Monitoring Reports:**

<https://www.mdt.mt.gov/publications/brochures/wetland-mitigation.aspx>

**Requirements** (from approved mitigation plan, banking instrument, or US Army Corps of Engineers permit conditions)

**Monitoring Period:** 5 years from construction completion or until concurrence by the USACE.

**Performance Standards\*:** 1) Construction of impoundments using 12 log crib structures and earthen berms, and 2) planting of shrubs and herbaceous plugs within the wetland fringe and earthen embankments associated with log crib structures. The target wetland type in the riparian area is palustrine scrub-shrub that supports a Bebb's willow community type with inclusions of palustrine emergent habitat. Grazing is excluded from the mitigation site to

preserve the riparian and wetland areas. Revegetation was completed in 2006, and recent adaptive management associated with crib repairs was completed in May 2020.

\*Performance criteria were reviewed in 2022, and where necessary, corrected and/or removed to accurately reflect the original performance criteria agreed to in the mitigation plan and any amendments to the mitigation plan.

## Summary Data

**Wetland Delineation** – Total wetland acreage delineated in 2023 was 3.51 acres, an increase of 0.04 acres from 2022. The dominant wetland type delineated at the site is palustrine emergent (PEM) with a developing palustrine scrub shrub (PSS) component comprised of willows (*Salix* spp.) and alders (*Alnus incana*) that provide approximately 10% canopy cover across the entire wetland area. The small slope wetlands in the north and south portions of the site are decreasing in size as hydrology appears to be decreasing over time (Table 1; Figure A-3, Appendix A). The increased wetland acreage delineated in 2023 is supported by lateral groundwater movement from the adjacent irrigated pasture west of the project site. Changes in wetland habitat at the site have not been supported as expected by the crib repairs in 2020 that were intended to spread water out across the site.

**Table 1. Delineated Wetland Acreage from 2016-2017 and 2020-2023 at the US 93 Peterson Site.**

| Habitat Type<br>(acres) | 2016 | 2017 | 2020 | 2021 | 2022 | 2023 |
|-------------------------|------|------|------|------|------|------|
| (PEM) Wetland           | 3.20 | 3.20 | 3.94 | 3.60 | 3.47 | 3.51 |

**Vegetation** – A total of 100 plant species have been identified at the site in the 15 years of monitoring, with five species documented at the site for the first time in 2023 (Appendix B; Table B-1).

Two upland type (UT) and four wetland type (WT) vegetation communities were identified and mapped at the site in 2023 (Figure A-3, Appendix A). Wetland type 2 (*Phalaris arundinacea* / *Carex* spp.), which was developed in 2021 to reflect the diversification of this community from a dominance of reed canary grass (*Phalaris arundinacea*) to a co-dominance with a variety of *Carex* spp., is present along the stream channel at the east and west ends of the site. Wetland type 8 (*Typha latifolia* / *Phalaris arundinacea*) is present along the stream channel in the central portion of the site. This WT contains the developing scrub shrub habitat at the site. In 2021, WT 13 (*Carex nebrascensis* / *Nasturtium officinale*) was created to replace WT 12 (*Carex nebrascensis* / *Poa pratensis*) and document the vegetation community in the slope wetland at the north end of the site. Wetland Type 12 has again been included at the site in 2023 to document the newly developed wetland area at the west boundary of the site. Much of the upland habitat at the site is mapped as UT 7 (*Elymus repens* / *Poa pratensis*), except for a natural berm in the northeast corner which is UT 10 (*Elymus repens* / *Sisymbrium altissimum*).

Species composition for each community type is provided in detail in the Wetland Mitigation Site Monitoring form (Appendix B). The vegetation community types identified within the site in 2023 include the following:

- Wetland Type 2 – *Phalaris arundinacea* / *Carex* spp.
- Wetland Type 8 – *Typha latifolia* / *Phalaris arundinacea*
- Wetland Type 12 – *Carex nebrascensis* / *Poa pratensis*
- Wetland Type 13 – *Carex nebrascensis* / *Nasturtium officinale*
- Upland Type 7 – *Elymus repens* / *Poa pratensis*
- Upland Type 10 – *Elymus repens* / *Sisymbrium altissimum*

Vegetation cover was estimated along two belt transects (T-1 and T-2) in 2023 (Figure A-2, Appendix A). Photographs of the transect end points are provided in Appendix C. Data for T-1

are summarized in Table 2. T-1 is 144 feet long and intersects UT 7 – *Elymus repens* / *Poa pratensis* and WT 8 – *Typha latifolia* / *Phalaris arundinacea*. Consistent with observations in 2022, 83.3 percent of the transect crossed wetland habitat and 16.7% crossed upland. The number of hydrophytic species increased from 14 to 16, and the total number of species documented along the belt transect has increased from 23 to 25. Total vegetative cover remains unchanged at 95 percent.

**Table 2. Data Summary for T-1 From 2016 – 2017 and 2021 - 2023 at the US 93 N Peterson Site.**

| Monitoring Year   | 2016 | 2017 | 2021 | 2022 | 2023 |
|---|------|------|------|------|------|
| <b>Transect Length (feet)</b>                                   | 144  | 144  | 144  | 144  | 144  |
| Vegetation Community Transitions along Transect                 | 2    | 2    | 2    | 2    | 2    |
| Vegetation Communities along Transect                           | 2    | 2    | 2    | 2    | 2    |
| Hydrophytic Vegetation Communities along Transect               | 1    | 1    | 1    | 1    | 1    |
| Total Vegetative Species  | 15   | 14   | 17   | 23   | 25   |
| Total Hydrophytic Species                                       | 12   | 7    | 13   | 14   | 16   |
| Total Upland Species  | 3    | 7    | 4    | 9    | 9    |
| Estimated % Total Vegetative Cover                              | 96   | 95   | 95   | 95   | 95   |
| Estimated % Unvegetated   | 4    | 5    | 5    | 5    | 5    |
| % Transect Length Comprising Hydrophytic Vegetation Communities | 73.6 | 85.4 | 86.8 | 83.3 | 83.3 |
| % Transect Length Comprising Upland Vegetation Communities      | 26.4 | 14.6 | 13.2 | 16.7 | 16.7 |
| % Transect Length Comprising Unvegetated Open Water             | 0    | 0    | 0    | 0    | 0    |
| % Transect Length Comprising Mudflat                            | 0    | 0    | 0    | 0    | 0    |

Data collected on T-2 (Wetland Mitigation Site Monitoring form, Appendix B) are summarized in Table 3. T-2 is 325 feet long and intersects UT 7 – *Elymus repens* / *Poa pratensis* and WT 8 – *Typha latifolia* / *Phalaris arundinacea*. Consistent with observations in 2022, 78.5 percent of the transect crossed wetland habitat and 21.5% crossed upland. The number of hydrophytic species increased from 18 to 19, and the total number of species observed along the transect has increased from 28 to 30. Total vegetative cover remains unchanged at 95 percent.

**Table 3. Data Summary for T-2 From 2016 - 2017 and 2021 - 2023 at the US 93 N Peterson Site.**

| Monitoring Year   | 2016 | 2017 | 2021 | 2022 | 2023 |
|---|------|------|------|------|------|
| <b>Transect Length (feet)</b>                                   | 325  | 325  | 325  | 325  | 325  |
| Vegetation Community Transitions along Transect                 | 3    | 3    | 3    | 1    | 1    |
| Vegetation Communities along Transect                           | 2    | 2    | 2    | 2    | 2    |
| Hydrophytic Vegetation Communities along Transect               | 1    | 1    | 1    | 1    | 1    |
| Total Vegetative Species  | 18   | 17   | 17   | 28   | 30   |
| Total Hydrophytic Species                                       | 14   | 6    | 12   | 18   | 19   |
| Total Upland Species  | 4    | 11   | 5    | 10   | 11   |
| Estimated % Total Vegetative Cover                              | 93   | 95   | 95   | 95   | 95   |
| Estimated % Unvegetated   | 7    | 5    | 5    | 5    | 5    |
| % Transect Length Comprising Hydrophytic Vegetation Communities | 67.7 | 72.0 | 72.0 | 78.5 | 78.5 |
| % Transect Length Comprising Upland Vegetation Communities      | 32.3 | 28.0 | 28.0 | 21.5 | 21.5 |
| % Transect Length Comprising Unvegetated Open Water             | 0    | 0    | 0    | 0    | 0    |
| % Transect Length Comprising Mudflat                            | 0    | 0    | 0    | 0    | 0    |

Infestations of state-listed Priority 2A and 2B noxious weeds were mapped across the US 93 Peterson site in 2023, and have increased from 2022 (Figure A-3, Appendix A). Infestations are assigned a cover class (Trace = <1%; Low = 1-5%; Moderate – 6-25%; High = 26-50%) assessed at a 0.1-acre area. *Ventenata* (*Ventenata dubia*) was first observed in the north central portion of the site in 2020 at a low cover class. In 2023, the number of occurrences has increased, ranging from low to moderate. Pale-yellow iris (*Iris pseudacorus*) has spread within WT 8 and is gradually increasing in density over time. Whitetop (*Lepidium draba*) occurrences are most prevalent and range from trace to high in the upland areas with the densest infestations existing in the southwest corner of the mitigation site. Canada thistle (*Cirsium arvense*), Gypsy-flower (*Cynoglossum officinale*), and ox-eye daisy (*Leucanthemum vulgare*) are primarily observed within the wetland and along the wetland boundary with infestations ranging from trace to high.

**Hydrology** – The main source of hydrology at the Peterson site is an unnamed perennial tributary of Post Creek that flows east to west. The mitigation site is located within a ¼-mile-long wetland corridor aligned east to west that follows the topographic gradient toward Post Creek. The project area is exposed to seasonal flooding during spring runoff, seasonally high groundwater, and sustained flows during summer from irrigation returns. Additionally, small seeps occur north and south of the tributary at the toe of slope. These two wetlands were observed to recede in 2022 and continued to do so in 2023. Immediately east of US 93 and the Peterson site is a small reservoir located on private land. The landowner manipulates the channel flows from this reservoir that supply hydrology to the mitigation site. Lake County has experienced a string of drought years (abnormally dry to extreme drought) over the growing season since 2021 (NDMC 2023). Additionally, water levels in the channel appeared lower than observed in 2022 with the estimated water depth ranging from 0-18 inches. This is a decrease of 6 inches from the previous year. Example photographs of the typical water level observed in the channel are included in Appendix C.

In May 2020, three log crib structures (i.e., log dams 1, 1A, 2, and 6) and earthen berms were installed, repaired, and replaced to improve water impoundment and increase wetland establishment across the site. In 2023, water was flowing under and not over each of the three crib structures, indicating failure. These structures will require repairs to function as intended.

**Soils** – The assessment area is mapped as Colake silt loam and Ronan silty clay loam by the National Resource Conservation Service (NRCS). Paired soil test plots, one upland plot paired with one wetland plot, were excavated at 5 locations (Figure A-2, Appendix A). The hydric soil indicators redox dark surface, depleted below dark surface, and hydrogen sulfide were observed in wetland test plots. Wetland soil textures ranged from loam to clay to mucky peat, and a restrictive hardpan layer was encountered around 11-12 inches in many upland and wetland soil plots. No hydric soil indicators were observed in the upland soil plots.

**Photographs** – Photographs were taken at photo points 1–8, transect endpoints, and data points. These, as well as additional site photos of the repaired cribs and outflow structures, are provided in Appendix C with comparisons to the first year of monitoring. MDT added photo point 8 in 2020 to monitor the newly installed Log Crib 1A. Please refer to past monitoring reports for the US93 sites containing all previous annual photographs at this weblink: <https://www.mdt.mt.gov/publications/brochures/wetland-mitigation.aspx>

**Functional Assessment** – The 2023 results of the functional assessment utilizing the 2008 version of the Montana Wetland Assessment (MWAM) are summarized in Table 4. Prior to 2021, the 1999 version of the MWAM form was utilized to determine functions and values. In 2020, because of the adaptive management actions, the 2008 MWAM version was implemented at the behest of the Corps. Changes in functional points scored between past years and from 2021 forward may be related to substantial updates between the two different MWAM versions



and are not necessarily representative of altered function. Comparisons across 2021, 2022, and 2023 are more representative of functionality. The 2023 completed MWAM form for the US 93 Peterson site is provided in Appendix B. Overall, the site rates as a Category II wetland and has generated 27.56 Functional Units. Due to observations of minnows in the channel in 2021 and 2022, fish habitat, which was previously rated as N/A, has been included in the MWAM since 2020. Expected wetland mitigation credits are shown in Table 5.

**Table 4. Montana Wetland Assessment Method Summary for the US 93 N Peterson Site.**

| Function and Value Parameters from the MDT Montana Wetland Assessment Method (2008) | 2004 (Baseline) (AA-1)* | 2017 (AA-1)*  | 2021 (AA-1)    | 2022 (AA-1)    | 2023 (AA-1)    |
|---|-------------------------|---------------|----------------|----------------|----------------|
| Listed/Proposed T&E Species Habitat   | Low (0.3)               | High (0.8)    | High (0.8)     | High (0.8)     | High (0.8)     |
| MTNHP Species Habitat   | Low (0.1)               | Low (0.1)     | Low (0.1)      | Low (0.1)      | Low (0.1)      |
| General Wildlife Habitat  | Low (0.5)               | High (0.9)    | High (0.9)     | High (0.9)     | High (0.9)     |
| General Fish/Aquatic Habitat  | Low (0.1)               | NA            | Low (0.3)      | Low (0.3)      | Low (0.3)      |
| Flood Attenuation   | Low (0.2)               | High (0.8)    | Mod (0.6)      | Mod (0.6)      | Mod (0.6)      |
| Short and Long Term Surface Water Storage   | Mod (0.4)               | High (0.8)    | High (0.8)     | High (0.8)     | High (0.8)     |
| Sediment/Nutrient/Toxicant Removal  | High (0.9)              | High (1.0)    | High (1)       | High (1)       | High (1)       |
| Sediment/Shoreline Stabilization  | High (0.7)              | High (1.0)    | High (1)       | High (1)       | High (1)       |
| Production Export/Food Chain Support  | High (0.8)              | High (0.8)    | High (0.8)     | High (0.8)     | High (0.8)     |
| Groundwater Discharge/Recharge  | High (1.0)              | High (1.0)    | High (1)       | High (1)       | High (1)       |
| Uniqueness  | Low (0.2)               | Mod (0.4)     | Mod (0.4)      | Mod (0.4)      | Mod (0.4)      |
| Recreation/Education Potential (Bonus Points)                                       | Low (0.1)               | High (1.0)    | High (0.15)    | High (0.15)    | High (0.15)    |
| <b>Actual Points / Possible Points</b>  | <b>5.3/12</b>           | <b>8.6/11</b> | <b>7.85/11</b> | <b>7.85/11</b> | <b>7.85/11</b> |
| <b>% of Possible Score Achieved</b>   | <b>44%</b>              | <b>78%</b>    | <b>71%</b>     | <b>71%</b>     | <b>71%</b>     |
| <b>Overall Category</b>   | <b>III</b>              | <b>II</b>     | <b>II</b>      | <b>II</b>      | <b>II</b>      |

\*1999 MWAM form. 2008 MWAM first utilized at US 93 N Peterson in 2021.

**Wildlife** – Eight bird species were identified at the site in 2023. Bird behavior observed included foraging, nesting, loafing, and flying over. Additional wildlife directly observed at the site includes leeches and crayfish in the stream channel. Further evidence of wildlife use includes observations of tracks, scat, bedding, and bird nests. Woody vegetation provides important usable habitat for wildlife and birds.

**Credit Summary** – Wetland acreage totaled 3.51-acres and has generated 23.84 Functional Units in 2023. This is a slight increase of 0.31 acres from 2022. Based on the 3.51 acres of delineated wetlands using the USACE credit ratios for creation and rehabilitation/secondary restoration, the site is currently receiving 3.04 USACE credit acres and 1.34 CSKT credit acres. Table 5 summarizes the estimated wetland credits based on USACE-approved credit ratios and the wetland delineation completed in June 2023. Credit acres calculated in 2023 exceed anticipated credit acres for both the USACE and CSKT.

**Table 5. Expected USACE Functional Credits for US 93 Peterson Site for 2023.**

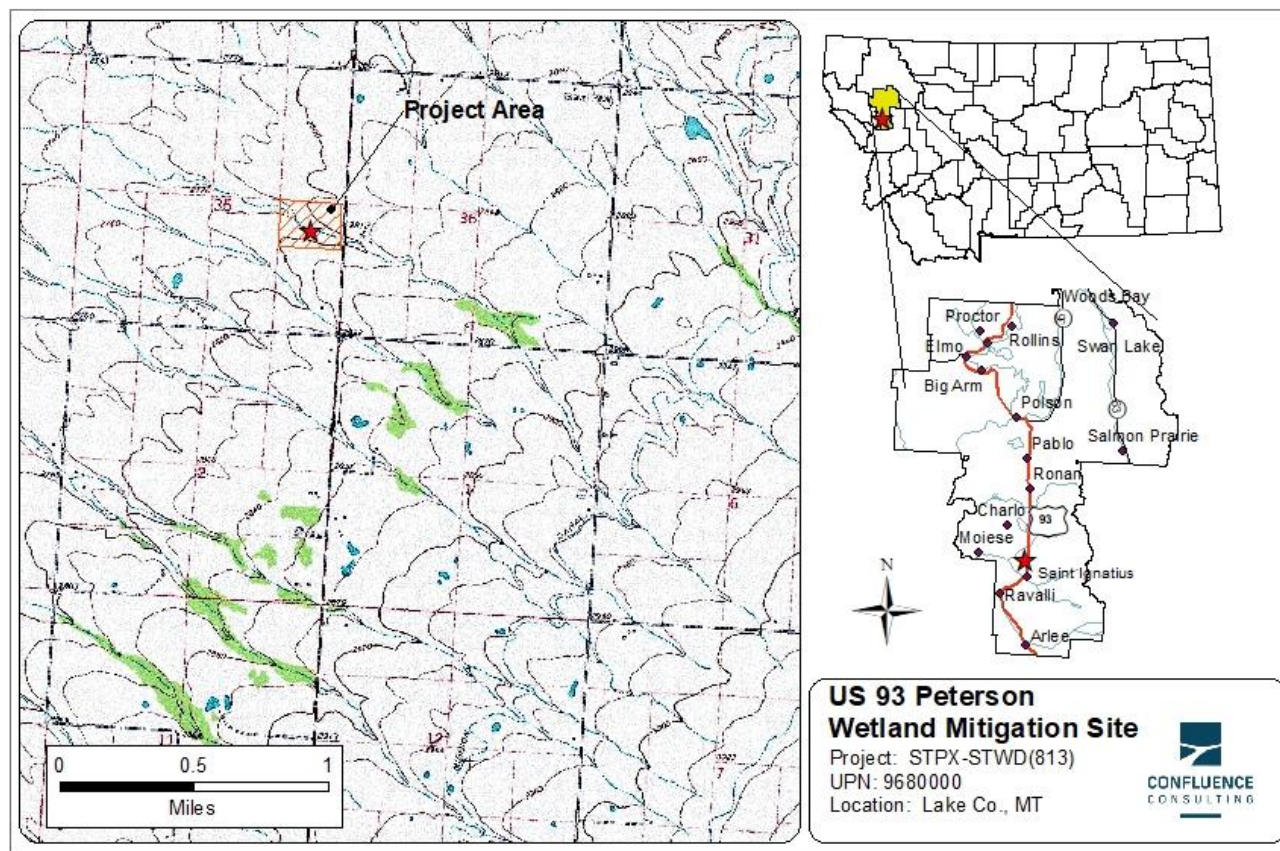
| Compensatory Mitigation Type                                    | 2023 Delineated Acres | Mitigation Ratio |        | 2023 Wetland Mitigation Credit Acres |      | MWAM Actual Points | 2023 Functional Credits Generated |
|---|-----------------------|------------------|--------|--------------------------------------|------|--------------------|-----------------------------------|
|   |                       | USACE            | CSKT   | USACE                                | CSKT |                    |                                   |
| Creation  | 2.26                  | 1:1              | 3.36:1 | 2.26                                 | 0.67 | 7.85               | 17.74                             |
| Rehabilitation/Secondary Restoration                            | 1.25                  | 1.61:1*          | 1.86:1 | 0.78                                 | 0.67 | 7.85               | 6.09                              |
| <b>(Wetland Mitigation Credit Acres** X MWAM Actual Points)</b> |                       |                  |        |                                      |      |                    | <b>23.84</b>                      |

\*Corrected enhancement ratio implemented in 2014.

\*\*Functional Credits are calculated based on the USACE Mitigation Credit Acres and do not include CSKT Credit Acres.

## Maps, Plans, Photos

Figure # 1: Site Location Map



**Project Area Maps/Figures:** See Appendix A (Figure 2 – Monitoring Activity Locations, Figure 3 – Mapped Site Features and Figure 4 – Wetland Delineation).

**Data Forms:** See Appendix B (Site Monitoring form, USACE data forms, and MWAM forms).

**Tables:** See Appendix B (Comprehensive Vegetation Species List, Table B-1).

**Photos:** See Appendix C.

**Plans:** See Appendix D of 2020 US 93 N Peterson Wetland Monitoring Report found at this website: <https://www.mdt.mt.gov/publications/brochures/wetland-mitigation.aspx>

## Conclusions

Based on the results of the fifteenth year of monitoring, the mitigation site has developed into a diverse emergent wetland with a scrub shrub component. The site is meeting the following performance standards in 2023: the construction of 12 log crib structures and earthen berms and the planting of shrubs and herbaceous plugs within the wetland fringe. However, the site has not developed into the target Bebb's Willow habitat type. At the 2023 site visit, none of the three crib structures installed in May 2020 were functioning as intended. These structures require repair to operate effectively and expand wetland habitat. The slope wetlands north and south of the main channel have continued to recede. However, this decrease in wetland acreage was offset in 2023 by the newly activated wetland at the west project boundary where adjacent irrigation is spreading groundwater laterally and supplying wetland development at the site, resulting in a net increase of wetland acreage. Both the USACE and CSKT mitigation credits outlined in the 2008 mitigation plan have been reached and exceeded.

## **References**

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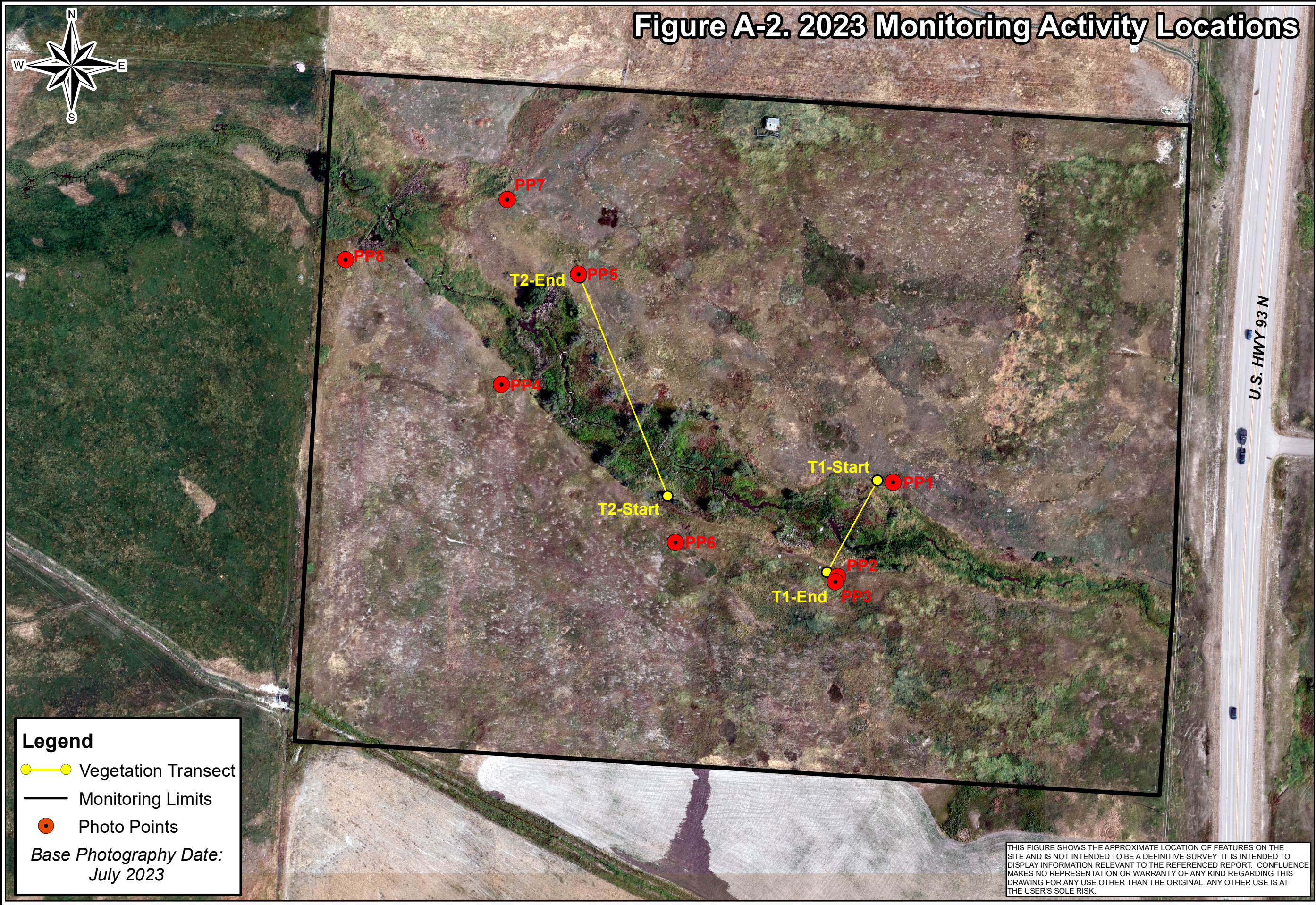
## APPENDIX A


# PROJECT AREA MAPS

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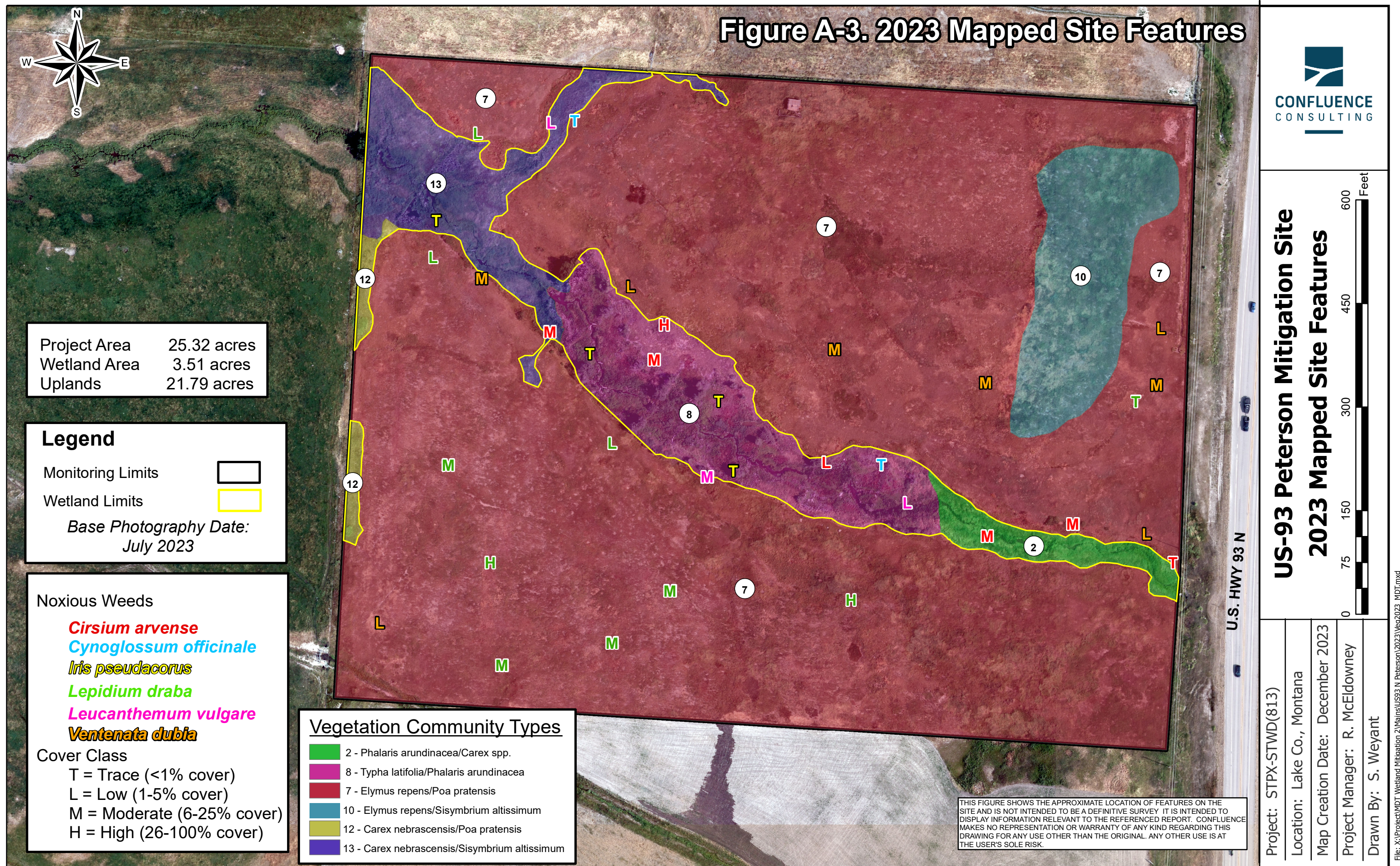
MDT Wetland Mitigation Monitoring  
US 93 Peterson  
Lake County, Montana



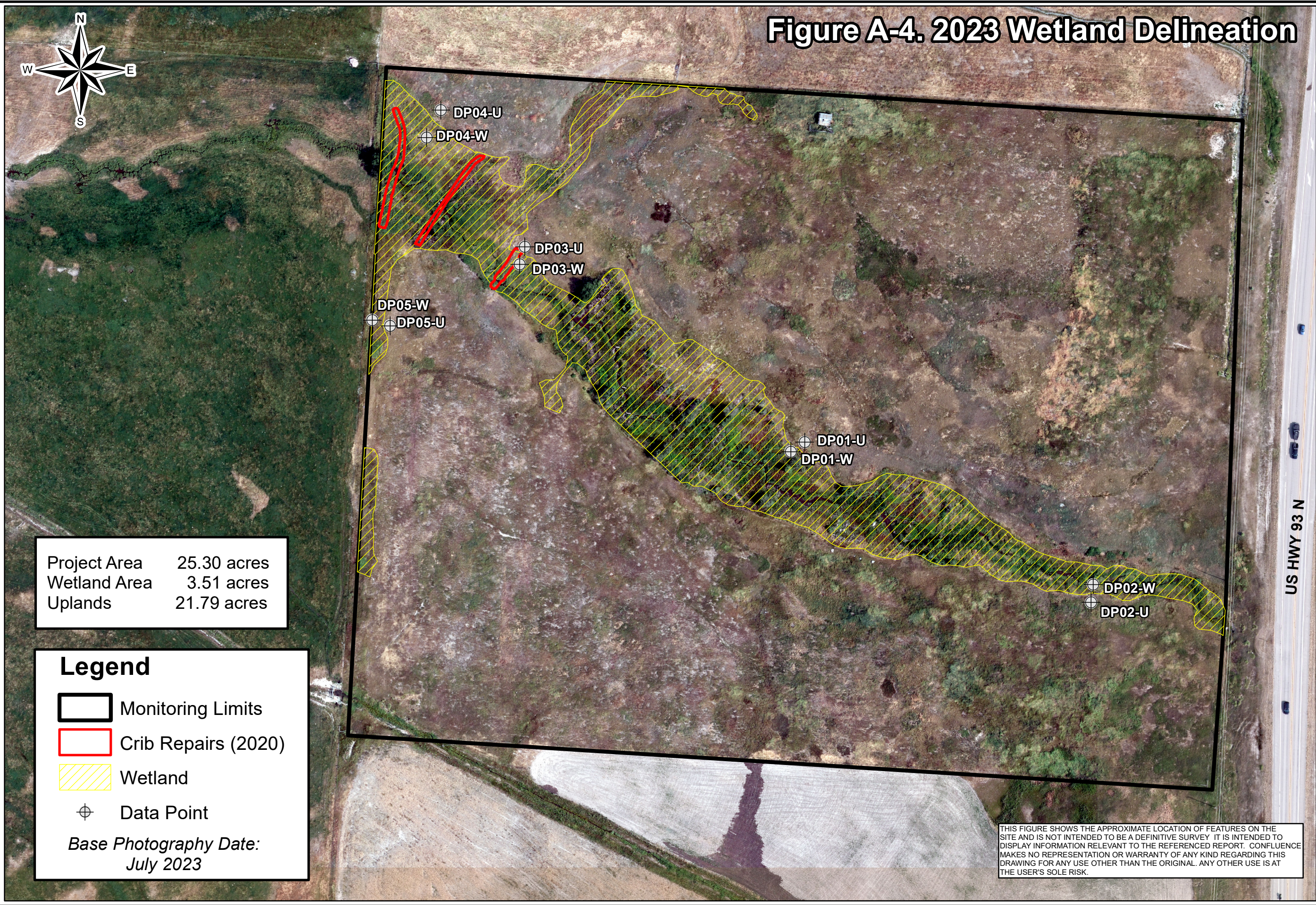


|   |                             |  |                                 |
|---|-----------------------------|--|---------------------------------|
| <br>CONFLUENCE<br>CONSULTING |                             | <b>US-93 Peterson Mitigation Site</b><br><b>2023 Monitoring Activity Locations</b> |                                 |
| Project: STPX-STWD(813)   | Location: Lake Co., Montana | Map Creation Date: August 2023   | Project Manager: R. McElidowney |
| Drawn By: S. Weyant   |                             |  |                                 |









**CONFLUENCE**  
CONSULTING

**US-93 Peterson Mitigation Site**

**2023 Wetland Delineation**

0 75 150 300 450 600 Feet

|                                   |                                |
|-----------------------------------|--------------------------------|
| Project: STPX-STWD(813)           | Project Manager: R. McElDowney |
| Location: Lake Co., Montana       | Drawn By: S. Weyant            |
| Map Creation Date: September 2023 |                                |

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## APPENDIX B

# MONITORING FORMS

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MDT Wetland Mitigation Monitoring  
US 93 Peterson  
Lake County, Montana

## MDT WETLAND MITIGATION SITE MONITORING FORM

Project Site: US 93 Peterson Assessment Date/Time 6/21/2023

Person(s) conducting the assessment: S Weyant

Weather: Clearly, partly cloudy, 75 degrees Location: St. Ignatius

MDT District: Missoula Milepost: 35.5

Legal Description: T 19N R 20W Section(s) 35

Initial Evaluation Date: 8/15/2008 Monitoring Year: 15 #Visits in Year: 1

Size of Evaluation Area: 25 (acres)

Land use surrounding wetland:

Residential & agriculture.

### HYDROLOGY

Surface Water Source: Unnamed tributary to Post Creek; irrigation ditch diversion.

Inundation: ☒ Average Depth: 0.25 (ft) Range of Depths: 0-18 (ft)

Percent of assessment area under inundation: 15 %

Depth at emergent vegetation-open water boundary: 0 (ft)

If assessment area is not inundated then are the soils saturated within 12 inches of surface: Yes

Other evidence of hydrology on the site (ex. – drift lines, erosion, stained vegetation, etc.):

Surface water, high water table, saturation, surface soil cracks, inundation visible on aerial imagery, hydrogen sulfide odor, geomorphic position, and a positive fac-neutral test.

### Groundwater Monitoring Wells

Record depth of water surface below ground surface, in feet.

#### Additional Activities Checklist:

- ☒ Map emergent vegetation-open water boundary on aerial photograph.
- ☒ Observe extent of surface water during each site visit and look for evidence of past surface water elevations (drift lines, erosion, vegetation staining, etc.)
- ☐ Use GPS to survey groundwater monitoring well locations, if present.

#### Hydrology Notes:

Lake County, MT has experienced a string of drought conditions (abnormally dry to extreme drought) through the growing season since 2021. Hydrology to the slope wetlands appears to be decreasing and the wetland boundary in these areas has receded.

## VEGETATION COMMUNITIES

**Site** US 93 Peterson

(Cover Class Codes **0** = < 1%, **1** = 1-5%, **2** = 6-10%, **3** = 11-20%, **4** = 21-50% , **5** = >50% )

**Community #** 2 **Community Type:** Phalaris arundinacea / Carex spp.

**Acres:** 0.38

| Species               | Cover class | Species              | Cover class |
|-----------------------|-------------|----------------------|-------------|
| Alnus incana          | 1           | Brassica juncea      | 2           |
| Carex aquatilis       | 1           | Carex lasiocarpa     | 1           |
| Carex nebrascensis    | 1           | Carex pachystachya   | 1           |
| Carex pellita         | 2           | Carex stipata        | 2           |
| Cirsium arvense       | 0           | Dipsacus fullonum    | 2           |
| Eleocharis palustris  | 1           | Epilobium ciliatum   | 2           |
| Glyceria grandis      | 0           | Juncus balticus      | 0           |
| Juncus ensifolius     | 1           | Juncus tenuis        | 1           |
| Nasturtium officinale | 2           | Phalaris arundinacea | 4           |
| Poa palustris         | 0           | Rosa woodsii         | 1           |
| Schoenoplectus acutus | 1           | Scirpus microcarpus  | 1           |
| Solanum dulcamara     | 2           | Typha latifolia      | 3           |

**Comments:**

Wetland community type created in 2021 to represent the diversifying wetland areas mapped as the Phalaris arundinacea community. This WC is observed along the stream channel at the west and east ends of the mitigation site. Cover by Typha latifolia in 2023 has decreased at the upstream end of the mitigation site where inundation has also decreased in association with the failure of the crib structures to retain water.

**Community #** 7 **Community Type:** Elymus repens / Poa pratensis

**Acres:** 20.46

| Species               | Cover class | Species              | Cover class |
|-----------------------|-------------|----------------------|-------------|
| Bare Ground           | 1           | Brassica juncea      | 2           |
| Bromus inermis        | 2           | Bromus tectorum      | 1           |
| Carex nebrascensis    | 2           | Cirsium arvense      | 0           |
| Dipsacus fullonum     | 1           | Elymus repens        | 4           |
| Elymus trachycaulus   | 0           | Gallium aperine      | 0           |
| Juncus balticus       | 0           | Lactuca serriola     | 0           |
| Lepidium campestre    | 1           | Lepidium draba       | 1           |
| Lepidium perfoliatum  | 2           | Mentha arvensis      | 0           |
| Pascopyrum smithii    | 2           | Phalaris arundinacea | 0           |
| Poa pratensis         | 4           | Rosa woodsii         | 0           |
| Sisymbrium altissimum | 1           | Sonchus arvensis     | 1           |
| Thlaspi arvense       | 0           | Ventenata dubia      | 2           |

**Comments:**

Upland type surrounding the wetland assessment area. Ventenata dubia is increasing and spreading across the site within this community, particularly in disturbed and drier areas that appear to have been previously sprayed with herbicide.

**Community #** 8 **Community Type:** Typha latifolia / Phalaris arundinacea**Acres:** 1.77

| Species                 | Cover class | Species               | Cover class |
|-------------------------|-------------|-----------------------|-------------|
| Alnus incana            | 2           | Bare Ground           | 0           |
| Brassica juncea         | 2           | Carex aquatilis       | 1           |
| Carex nebrascensis      | 2           | Carex stipata         | 0           |
| Carex utriculata        | 2           | Cirsium arvense       | 0           |
| Cirsium vulgare         | 0           | Cornus alba           | 1           |
| Cynoglossum officinale  | 0           | Dipsacus fullonum     | 1           |
| Elymus repens           | 0           | Epilobium ciliatum    | 2           |
| Geum macrophyllum       | 2           | Glyceria grandis      | 0           |
| Hesperis matronalis     | 0           | Iris pseudacorus      | 0           |
| Lemna minor             | 0           | Leucanthemum vulgare  | 1           |
| Mentha arvensis         | 1           | Myosotis laxa         | 2           |
| Nasturtium microphyllum | 2           | Nasturtium officinale | 3           |
| Nepeta cataria          | 1           | Open Water            | 0           |
| Persicaria amphibia     | 1           | Phalaris arundinacea  | 4           |
| Poa palustris           | 1           | Poa pratensis         | 1           |
| Rosa woodsii            | 1           | Salix exigua          | 1           |
| Sisymbrium altissimum   | 0           | Solanum dulcamara     | 2           |
| Sonchus arvensis        | 0           | Thlaspi arvense       | 2           |
| Typha latifolia         | 3           | Veronica americana    | 0           |

**Comments:**

Wetland type present along the stream channel in the central portion of the mitigation site. The density of cattail stands were observed to have decreased in 2023.

**Community #** 10 **Community Type:** Elymus repens / Sisymbrium altissimum**Acres:** 1.35

| Species              | Cover class | Species               | Cover class |
|----------------------|-------------|-----------------------|-------------|
| Brassica juncea      | 1           | Bromus inermis        | 1           |
| Cirsium vulgare      | 0           | Elymus repens         | 5           |
| Lepidium perfoliatum | 2           | Sisymbrium altissimum | 4           |
| Thlaspi arvense      | 0           |                       |             |

**Comments:**

Upland community type in northeast quadrant of site.

**Community #** 12 **Community Type:** Carex nebrascensis / Poa pratensis**Acres:** 0.16

| Species            | Cover class | Species            | Cover class |
|--------------------|-------------|--------------------|-------------|
| Brassica juncea    | 2           | Carex nebrascensis | 5           |
| Carex stipata      | 1           | Elymus repens      | 2           |
| Glyceria grandis   | 1           | Juncus tenuis      | 1           |
| Pascopyrum smithii | 1           | Poa palustris      | 1           |
| Poa pratensis      | 3           | Typha latifolia    | 1           |

**Comments:**

WT replaced in 2021 with WT 13. This community is now present along the west boundary of the mitigation site where irrigation in the adjacent pasture is overflowing to support wetland development on the hillside.

**Community #** 13 **Community Type:** Carex nebrascensis / Nasturtium officinale**Acres:** 1.2

| Species              | Cover class | Species                | Cover class |
|----------------------|-------------|------------------------|-------------|
| Alyssum alyssoides   | 1           | Brassica juncea        | 3           |
| Carduus nutans       | 0           | Carex nebrascensis     | 5           |
| Carex stipata        | 1           | Cynoglossum officinale | 1           |
| Dipsacus fullonum    | 1           | Elymus repens          | 0           |
| Gallium aperine      | 1           | Glyceria grandis       | 0           |
| Lactuca serriola     | 1           | Lepidium draba         | 1           |
| Leucanthemum vulgare | 1           | Nasturtium officinale  | 3           |
| Pascopyrum smithii   | 0           | Phalaris arundinacea   | 2           |
| Poa pratensis        | 2           | Sisymbrium altissimum  | 1           |
| Thlaspi arvense      | 2           | Typha latifolia        | 1           |

**Comments:**

Wetland type 13 was created in 2021 to represent the vegetation community in the slope wetland at the north portion of the site previously mapped as WT 12. This area has a large component of weedy, annual species rated UPL and FACU that are spreading throughout.

**Total Vegetation Community Acreage****25.32**

## VEGETATION TRANSECTS

Site: US 93 Peterson Date: 6/21/2023

**Transect Number:** 1 **Compass Direction from Start:** 210

### Interval Data:

Ending Station 13 Community Type: Elymus repens / Poa pratensis

| Species           | Cover class | Species            | Cover class |
|-------------------|-------------|--------------------|-------------|
| Bare Ground       | 2           | Brassica juncea    | 1           |
| Dipsacus fullonum | 1           | Elymus repens      | 4           |
| Gallium aperine   | 1           | Pascopyrum smithii | 1           |
| Poa pratensis     | 2           | Ventenata dubia    | 1           |

Ending Station 133 Community Type: Typha latifolia / Phalaris arundinacea

| Species                 | Cover class | Species               | Cover class |
|-------------------------|-------------|-----------------------|-------------|
| Alnus incana            | 0           | Bare Ground           | 1           |
| Brassica juncea         | 4           | Carex nebrascensis    | 1           |
| Carex stipata           | 1           | Carex utriculata      | 1           |
| Cynoglossum officinale  | 0           | Dipsacus fullonum     | 2           |
| Epilobium ciliatum      | 2           | Geum macrophyllum     | 0           |
| Hesperis matronalis     | 1           | Myosotis laxa         | 3           |
| Nasturtium microphyllum | 2           | Open Water            | 1           |
| Phalaris arundinacea    | 3           | Poa pratensis         | 0           |
| Rosa woodsii            | 0           | Sisymbrium altissimum | 0           |
| Solanum dulcamara       | 1           | Thlaspi arvense       | 1           |
| Typha latifolia         | 2           | Veronica americana    | 1           |

Ending Station 144 Community Type: Elymus repens / Poa pratensis

| Species             | Cover class | Species          | Cover class |
|---------------------|-------------|------------------|-------------|
| Elymus trachycaulus | 3           | Lactuca serriola | 0           |
| Poa pratensis       | 4           | Thlaspi arvense  | 0           |

### Transect Notes:

The wetland vegetation community (WC 8) is dominated by weedy, annual species (field pennycress, brown mustard) in the wetland areas away from the active channel.

**Transect Number:** 2      **Compass Direction from Start:** 340

**Interval Data:**

Ending Station      255      Community Type:      Typha latifolia / Phalaris arundinacea

| Species              | Cover class | Species               | Cover class |
|----------------------|-------------|-----------------------|-------------|
| Alnus incana         | 1           | Brassica juncea       | 3           |
| Carex nebrascensis   | 1           | Cirsium arvense       | 0           |
| Dipsacus fullonum    | 2           | Elymus repens         | 0           |
| Epilobium ciliatum   | 3           | Geum macrophyllum     | 2           |
| Glyceria grandis     | 0           | Iris pseudacorus      | 0           |
| Leucanthemum vulgare | 1           | Mentha arvensis       | 0           |
| Myosotis laxa        | 3           | Nasturtium officinale | 3           |
| Nepeta cataria       | 0           | Persicaria amphibia   | 0           |
| Phalaris arundinacea | 0           | Poa palustris         | 0           |
| Rosa woodsii         | 0           | Solanum dulcamara     | 1           |
| Sonchus arvensis     | 1           | Thlaspi arvense       | 2           |
| Typha latifolia      | 3           | Veronica americana    | 1           |

Ending Station      325      Community Type:      Elymus repens / Poa pratensis

| Species               | Cover class | Species          | Cover class |
|-----------------------|-------------|------------------|-------------|
| Bare Ground           | 1           | Bromus tectorum  | 0           |
| Carex nebrascensis    | 0           | Lactuca serriola | 0           |
| Pascopyrum smithii    | 3           | Poa pratensis    | 5           |
| Sisymbrium altissimum | 1           | Thlaspi arvense  | 1           |
| Ventenata dubia       | 1           |                  |             |

**Transect Notes:**

Transect spans channel in WT 8.

## PLANTED WOODY VEGETATION SURVIVAL

US 93 Peterson

| Planting Type       | #Planted | #Alive | Notes |
|---------------------|----------|--------|-------|
| Alnus incana        | 1163     |        |       |
| Betula occidentalis | 817      |        |       |
| Cornus alba         | 408      |        |       |
| Crataegus douglasii |          |        |       |
| Ribes hudsonianum   | 245      |        |       |
| Rosa woodsii        | 450      |        |       |
| Salix exigua        | 408      |        |       |

### Comments

No planted woody vegetation survival was assessed during 2020-2023 monitoring events. Woody plants were evaluated based on ocular observation. *Alnus incana* has the highest woody plant density, but appears stunted (thin foliage, bare branches, some basal regrowth). *Rosa woodsii* and *Cornus alba* are present along the wetland/upland boundary, and *Salix exigua* plantings and volunteers are observed in WT 8. Overall, woody vegetation provides important wildlife habitat and structural diversity at this site.



**WILDLIFE****Birds**Were man-made nesting structures installed? No

If yes, type of structure: \_\_\_\_\_

How many? \_\_\_\_\_

Are the nesting structures being used? NoDo the nesting structures need repairs? No

Nesting Structure Comments:

| <b>Species</b>       | <b>#Observed</b> | <b>Behavior</b> | <b>Habitat</b> |
|----------------------|------------------|-----------------|----------------|
| American Crow        | 1                | FO              |                |
| Common Yellowthroat  | 3                | L, FO           |                |
| European Starling    | 25               | FO              |                |
| Mourning Dove        | 1                | L               |                |
| Red-tailed Hawk      | 1                | FO              |                |
| Red-winged Blackbird | 15               | FO, L, F        |                |
| Ring-billed Gull     | 5                | FO              |                |
| Turkey Vulture       | 7                | FO              |                |

**Bird Comments**

Observed owl pellets, feathers, and birds nests in shrubs.

**BEHAVIOR CODES****BP** = One of a breeding pair **BD** = Breeding display **F** = Foraging **FO** = Flyover **L** = Loafing **N** = Nesting**HABITAT CODES****AB** = Aquatic bed **SS** = Scrub/Shrub **FO** = Forested **UP** = Upland buffer **I** = Island**WM** = Wet meadow **MA** = Marsh **US** = Unconsolidated shore **MF** = Mud Flat **OW** = Open Water

## Mammals and Herptiles

| Species  | # Observed | Tracks | Scat | Burrows | Comments                                    |
|----------|------------|--------|------|---------|---|
| Crayfish | 4          | No     | No   | No      | Unidentified crayfish observed in channel.  |
| Leech    | 2          | No     | No   | No      | Unidentified leech sp. observed in channel. |

|                           |
|---------------------------|
| <b>Wildlife Comments:</b> |
|---------------------------|

|   |
|---|
| Sightings, tracks, and scat indicate wildlife presence. Minnows observed in channel in 2021 and 2022. |
|---|

**PHOTOGRAPHS**

Take photographs of the following permanent reference points listed in the check list below. Record the direction of the photograph using a compass. When at the site for the first time, establish a permanent reference point by setting a ½ inch rebar or fencepost extending 2-3 feet above ground. Survey the location with a resource grade GPS and mark the location on the aerial photograph.

**Photograph Checklist:**

- ☒ One photograph for each of the four cardinal directions surrounding the wetland.
- ☐ At least one photograph showing upland use surrounding the wetland. If more than one upland exists then take additional photographs.
- ☐ At least one photograph showing the buffer surrounding the wetland.
- ☒ One photograph from each end of the vegetation transect, showing the transect.

| Photo #  | Latitude  | Longitude   | Bearing | Description               |
|----------|-----------|-------------|---------|---------------------------|
| DP01u    | 47.361646 | -114.099637 |         | Upland data point         |
| DP01w    | 47.361606 | -114.099712 |         | Wetland data point        |
| DP02u    | 47.361104 | -114.097994 |         | Upland data point         |
| DP02w    | 47.361171 | -114.097988 |         | Wetland data point        |
| DP03u    | 47.362321 | -114.101259 |         | Upland data point         |
| DP03w    | 47.362254 | -114.101282 |         | Wetland data point        |
| DP04u    | 47.36282  | -114.101771 |         | Upland data point         |
| DP04w    | 47.362713 | -114.101841 |         | Wetland data point        |
| DP05u    | 47.361993 | -114.101981 |         | Upland data point         |
| DP05w    | 47.362011 | -114.102083 |         | Wetland data point        |
| PP1      | 47.361538 | -114.098828 | 175     | Photo point 1: Photo 1.   |
| PP2-1    | 47.361169 | -114.099105 | 35      | Photo point 2: Photo 1.   |
| PP2-2    | 47.361169 | -114.099105 | 110     | Photo point 2: Photo 2.   |
| PP3      | 47.36115  | -114.099117 | 45      | Photo point 3.            |
| PP4      | 47.361821 | -114.101036 | 30      | Photo point 4.            |
| PP5      | 47.362254 | -114.100645 | 175     | Photo point 5.            |
| PP6      | 47.361263 | -114.100017 | 315     | Photo point 6.            |
| PP7-1    | 47.362521 | -114.101066 | 5       | Photo point 7: Photo 1.   |
| PP7-2    | 47.362521 | -114.101066 | 267     | Photo point 7: Photo 2.   |
| PP8      | 47.362257 | -114.101944 | 34      | Photo point 8.            |
| T1-End   | 47.361169 | -114.099105 | 45      | Photo point 2. T-1 End.   |
| T1-Start | 47.361538 | -114.098828 | 215     | Photo point 1. T-1 Start. |
| T2-End   | 47.362242 | -114.100633 | 315     | Photo point 5. T-2 End.   |
| T2-Start | 47.361435 | -114.100076 | 135     | Transect 2 start.         |

**Comments:**

## ADDITIONAL ITEMS CHECKLIST

### Hydrology

- ☒ Map emergent vegetation/open water boundary on aerial photos.
- ☒ Observe extent of surface water. Look for evidence of past surface water elevations (e.g. drift lines, vegetation staining, erosion, etc).

### Photos

- ☒ One photo from the wetland toward each of the four cardinal directions
- ☐ One photo showing upland use surrounding the wetland.
- ☐ One photo showing the buffer around the wetland
- ☒ One photo from each end of each vegetation transect, toward the transect

### Vegetation

- ☒ Map vegetation community boundaries
- ☒ Complete Vegetation Transects

### Soils

- ☒ Assess soils

### Wetland Delineations

- ☒ Delineate wetlands according to applicable USACE protocol (1987 form or Supplement)
- ☒ Delineate wetland – upland boundary onto aerial photograph.

#### Wetland Delineation Comments

Wetland acreage increased 0.04-acres in 2023 to a total delineated acreage of 3.51-acres.

### Functional Assessments

- ☒ Complete and attach full MDT Montana Wetland Assessment Method field forms.

#### Functional Assessment Comments:

The Assessment Area (AA) is rated as a Category II Wetland.

### **Maintenance**

Were man-made nesting structure installed at this site?    No

If yes, do they need to be repaired?

If yes, describe the problems below and indicate if any actions were taken to remedy the problems

Were man-made structures built or installed to impound water or control water flow

into or out of the wetland?    Yes

If yes, are the structures in need of repair?    Yes

If yes, describe the problems below.

The second wire from the top of fence at the entry gate has again been cut and needs repair. Crib repairs in 2020 are failing - water in the channel was observed flowing under, rather than over the cribs. Undercutting was observed at two structures.

# WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: US93 N Peterson City/County: Lake County Sampling Date: 2023-06-21  
 Applicant/Owner: MDT State: Montana Sampling Point: DP01u  
 Investigator(s): S Weyant Section, Township, Range: S35 T19N R20W  
 Landform (hillslope, terrace, etc.): Valley Floor Local relief (concave, convex, none): Undulating Slope (%): 10  
 Subregion (LRR): E 44 Lat: 47.361639 Long: -114.099624 Datum: NAD 83  
 Soil Map Unit Name: 22 - Colake silt loam, 0 to 1 percent slopes NWI classification: Not mapped

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 ☒ 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.

|  |  |
|--|--|
| Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____   | Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> |
| Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>  |  |
| Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>  |  |
| Remarks:<br>Upland sample point on toe slope adjacent to DP01w. Hydrologic conditions on the site are atypical. The U.S. Drought Monitor Index for Lake County, MT during the site visit is D1 (moderate drought). |  |

## VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft r</u> )  | Absolute % Cover | Dominant Species? | Indicator Status | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>1</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.00</u> (A/B)  |
|--|------------------|-------------------|------------------|---|
| 1. _____   | _____            | _____             | _____            |   |
| 2. _____   | _____            | _____             | _____            |   |
| 3. _____   | _____            | _____             | _____            |   |
| 4. _____   | _____            | _____             | _____            |   |
| Sapling/Shrub Stratum (Plot size: <u>15 ft r</u> )<br>1. _____<br>2. _____<br>3. _____<br>4. _____<br>5. _____<br>0 = Total Cover  |                  |                   |                  | <b>Prevalence Index worksheet:</b><br>Total % Cover of: Multiply by:<br>OBL species <u>15</u> x 1 = <u>15</u><br>FACW species <u>1</u> x 2 = <u>2</u><br>FAC species <u>77</u> x 3 = <u>231</u><br>FACU species <u>2</u> x 4 = <u>8</u><br>UPL species <u>5</u> x 5 = <u>25</u><br>Column Totals: <u>100</u> (A) <u>281</u> (B)<br><br>Prevalence Index = B/A = <u>2.81</u> |
| Herb Stratum (Plot size: <u>5 ft r</u> )<br>1. <u>Poa pratensis</u> <u>75</u> <input checked="" type="checkbox"/> <u>FAC</u><br>2. <u>Carex nebrascensis</u> <u>15</u> _____ <u>OBL</u><br>3. <u>Brassica juncea</u> <u>4</u> _____ <u>UPL</u><br>4. <u>Elymus repens</u> <u>2</u> _____ <u>FAC</u><br>5. <u>Thlaspi arvense</u> <u>1</u> _____ <u>UPL</u><br>6. <u>Juncus balticus</u> <u>1</u> _____ <u>FACW</u><br>7. <u>Sisymbrium altissimum</u> <u>1</u> _____ <u>FACU</u><br>8. <u>Lactuca serriola</u> <u>1</u> _____ <u>FACU</u><br>9. _____<br>10. _____<br>11. _____<br>100 = Total Cover |                  |                   |                  |   |
| Woody Vine Stratum (Plot size: _____)<br>1. _____<br>2. _____<br>0 = Total Cover   |                  |                   |                  |   |
| % Bare Ground in Herb Stratum _____  |                  |                   |                  |   |
| Remarks:<br>Although hydrophytic vegetation was observed, the data point lacked evidence of hydric soil development and is not supported by wetland hydrology (1987 COE Wetland Delineation Manual).   |                  |                   |                  |   |

Hydrophytic Vegetation Present? Yes ☒ No \_\_\_\_\_

## SOIL

Sampling Point: DP01u**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth<br>(inches) | Matrix        |     | Redox Features |   |                   |                  | Texture | Remarks         |
|-------------------|---------------|-----|----------------|---|-------------------|------------------|---------|-----------------|
|                   | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |         |                 |
| 0 - 2             | 7.5YR 2.5/1   | 100 |                |   |                   |                  | Loam    | Many fine roots |
| 2 - 10            | 7.5YR 2.5/1   | 100 |                |   |                   |                  | Loam    |                 |
| -                 |               |     |                |   |                   |                  |         |                 |
| -                 |               |     |                |   |                   |                  |         |                 |
| -                 |               |     |                |   |                   |                  |         |                 |
| -                 |               |     |                |   |                   |                  |         |                 |
| -                 |               |     |                |   |                   |                  |         |                 |
| -                 |               |     |                |   |                   |                  |         |                 |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils<sup>3</sup>:**

|  |  |   |
|--|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)                                  | <input type="checkbox"/> 2 cm Muck (A10)                  |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)                              | <input type="checkbox"/> Red Parent Material (TF2)        |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> ) | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                          | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3)                              |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Redox Dark Surface (F6)                           |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Depleted Dark Surface (F7)                        |   |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          | <input type="checkbox"/> Redox Depressions (F8)                            |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if present):**Type: BedrockDepth (inches): 10Hydric Soil Present? Yes ☐ No ☒

Remarks:

No hydric soil indicators observed.

## HYDROLOGY

**Wetland Hydrology Indicators:**Primary Indicators (minimum of one required; check all that apply)

|  |  |
|--|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Water-Stained Leaves (B9) ( <b>except MLRA 1, 2, 4A, and 4B</b> ) |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Salt Crust (B11)  |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> Aquatic Invertebrates (B13)                                       |
| <input type="checkbox"/> Water Marks (B1)                          | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)  |
| <input type="checkbox"/> Sediment Deposits (B2)                    | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)                     |
| <input type="checkbox"/> Drift Deposits (B3)                       | <input type="checkbox"/> Presence of Reduced Iron (C4)                                     |
| <input type="checkbox"/> Algal Mat or Crust (B4)                   | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)                        |
| <input type="checkbox"/> Iron Deposits (B5)                        | <input type="checkbox"/> Stunted or Stressed Plants (D1) ( <b>LRR A</b> )                  |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Other (Explain in Remarks)  |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)   |  |

Secondary Indicators (2 or more required)

|   |
|---|
| <input type="checkbox"/> Water-Stained Leaves (B9) ( <b>MLRA 1, 2, 4A, and 4B</b> ) |
| <input type="checkbox"/> Drainage Patterns (B10)                                    |
| <input type="checkbox"/> Dry-Season Water Table (C2)                                |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)                  |
| <input type="checkbox"/> Geomorphic Position (D2)                                   |
| <input type="checkbox"/> Shallow Aquitard (D3)                                      |
| <input type="checkbox"/> FAC-Neutral Test (D5)                                      |
| <input type="checkbox"/> Raised Ant Mounds (D6) ( <b>LRR A</b> )                    |
| <input type="checkbox"/> Frost-Heave Hummocks (D7)                                  |

**Field Observations:**

|  |   |                                   |
|--|---|-----------------------------------|
| Surface Water Present?                             | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Depth (inches): <u>          </u> |
| Water Table Present?                               | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Depth (inches): <u>          </u> |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Depth (inches): <u>          </u> |

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks:

No evidence of wetland hydrology observed. Soils bone dry.

# WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: US93 N Peterson City/County: Lake County Sampling Date: 2023-06-21  
 Applicant/Owner: MDT State: Montana Sampling Point: DP01w  
 Investigator(s): S Weyant Section, Township, Range: S35 T19N R20W  
 Landform (hillslope, terrace, etc.): Stream Channel Local relief (concave, convex, none): Concave Slope (%): 5  
 Subregion (LRR): E 44 Lat: 47.361599 Long: -114.099699 Datum: NAD 83  
 Soil Map Unit Name: 22 - Colake silt loam, 0 to 1 percent slopes NWI classification: Not mapped

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 ☒ 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.

|  |   |          |  |  |
|--|---|----------|--|--|
| Hydrophytic Vegetation Present?  | Yes <input checked="" type="checkbox"/> | No _____ | Is the Sampled Area<br>within a Wetland? | Yes <input checked="" type="checkbox"/> No _____ |
| Hydric Soil Present?   | Yes <input checked="" type="checkbox"/> | No _____ |  |  |
| Wetland Hydrology Present?   | Yes <input checked="" type="checkbox"/> | No _____ |  |  |
| Remarks:<br>PEM, riverine wetland with scrub shrub component. Sample point in north central portion of wetland. Hydrologic conditions on the site are atypical. The U.S. Drought Monitor Index for Lake County, MT during the site visit is D1 (moderate drought). |   |          |  |  |

## VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft r</u> )   | Absolute % Cover | Dominant Species?                   | Indicator Status | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>4</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.00</u> (A/B)   |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                               |                |
|---|------------------|-------------------------------------|------------------|--|-------------------|--------------|-----------------------|-----------------|------------------------|------------------|----------------------|----------------|-----------------------|----------------|----------------------|-----------------|-------------------------------|----------------|
| 1. _____  | _____            | _____                               | _____            |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                               |                |
| 2. _____  | _____            | _____                               | _____            |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                               |                |
| 3. _____  | _____            | _____                               | _____            |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                               |                |
| 4. _____  | _____            | _____                               | _____            |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                               |                |
| _____ = Total Cover   |                  |                                     |                  | <b>Prevalence Index worksheet:</b><br><table border="0"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </tr> <tr> <td>OBL species <u>30</u></td> <td>x 1 = <u>30</u></td> </tr> <tr> <td>FACW species <u>68</u></td> <td>x 2 = <u>136</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>1</u></td> <td>x 4 = <u>4</u></td> </tr> <tr> <td>UPL species <u>4</u></td> <td>x 5 = <u>20</u></td> </tr> <tr> <td>Column Totals: <u>103</u> (A)</td> <td><u>190</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.84</u>  | Total % Cover of: | Multiply by: | OBL species <u>30</u> | x 1 = <u>30</u> | FACW species <u>68</u> | x 2 = <u>136</u> | FAC species <u>0</u> | x 3 = <u>0</u> | FACU species <u>1</u> | x 4 = <u>4</u> | UPL species <u>4</u> | x 5 = <u>20</u> | Column Totals: <u>103</u> (A) | <u>190</u> (B) |
| Total % Cover of:   | Multiply by:     |                                     |                  |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                               |                |
| OBL species <u>30</u>   | x 1 = <u>30</u>  |                                     |                  |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                               |                |
| FACW species <u>68</u>  | x 2 = <u>136</u> |                                     |                  |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                               |                |
| FAC species <u>0</u>  | x 3 = <u>0</u>   |                                     |                  |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                               |                |
| FACU species <u>1</u>   | x 4 = <u>4</u>   |                                     |                  |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                               |                |
| UPL species <u>4</u>  | x 5 = <u>20</u>  |                                     |                  |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                               |                |
| Column Totals: <u>103</u> (A)   | <u>190</u> (B)   |                                     |                  |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                               |                |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft r</u>)</b>  |                  |                                     |                  |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                               |                |
| 1. <u>Salix exigua</u>  | <u>10</u>        | <input checked="" type="checkbox"/> | <u>FACW</u>      |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                               |                |
| 2. <u>Alnus incana</u>  | <u>3</u>         | <input checked="" type="checkbox"/> | <u>FACW</u>      |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                               |                |
| 3. _____  | _____            | _____                               | _____            |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                               |                |
| 4. _____  | _____            | _____                               | _____            |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                               |                |
| 5. _____  | _____            | _____                               | _____            |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                               |                |
| _____ = Total Cover   |                  |                                     |                  | <b>Hydrophytic Vegetation Indicators:</b><br><input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input checked="" type="checkbox"/> 2 - Dominance Test is >50%<br><input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br>_____ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br>_____ 5 - Wetland Non-Vascular Plants <sup>1</sup><br>_____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                               |                |
| <b>Herb Stratum (Plot size: <u>5 ft r</u>)</b>  |                  |                                     |                  |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                               |                |
| 1. <u>Persicaria maculosa</u>   | <u>45</u>        | <input checked="" type="checkbox"/> | <u>FACW</u>      |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                               |                |
| 2. <u>Carex stipata</u>   | <u>20</u>        | <input checked="" type="checkbox"/> | <u>OBL</u>       |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                               |                |
| 3. <u>Phalaris arundinacea</u>  | <u>10</u>        | _____                               | <u>FACW</u>      |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                               |                |
| 4. <u>Typha latifolia</u>   | <u>5</u>         | _____                               | <u>OBL</u>       |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                               |                |
| 5. <u>Brassica juncea</u>   | <u>4</u>         | _____                               | <u>UPL</u>       |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                               |                |
| 6. <u>Nasturtium officinale</u>   | <u>2</u>         | _____                               | <u>OBL</u>       |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                               |                |
| 7. <u>Carex bebbii</u>  | <u>2</u>         | _____                               | <u>OBL</u>       |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                               |                |
| 8. <u>Glyceria grandis</u>  | <u>1</u>         | _____                               | <u>OBL</u>       |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                               |                |
| 9. <u>Leucanthemum vulgare</u>  | <u>1</u>         | _____                               | <u>FACU</u>      |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                               |                |
| 10. _____   | _____            | _____                               | _____            |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                               |                |
| 11. _____   | _____            | _____                               | _____            |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                               |                |
| _____ = Total Cover   |                  |                                     |                  |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                               |                |
| <b>Woody Vine Stratum (Plot size: _____)</b>  |                  |                                     |                  |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                               |                |
| 1. _____  | _____            | _____                               | _____            |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                               |                |
| 2. _____  | _____            | _____                               | _____            |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                               |                |
| _____ = Total Cover   |                  |                                     |                  |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                               |                |
| % Bare Ground in Herb Stratum <u>10</u>   |                  |                                     |                  |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                               |                |
| Remarks:<br>Evidence of hydrophytic vegetation includes a positive rapid test, a positive dominance test, and a prevalence index less than or equal to 3.0. |                  |                                     |                  |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                               |                |



## SOIL

Sampling Point: DP01W

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth<br>(inches) | Matrix        |     | Redox Features |   |                   |                  | Texture   | Remarks  |
|-------------------|---------------|-----|----------------|---|-------------------|------------------|-----------|----------|
|                   | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |           |          |
| 0 - 11            | 10YR 2/2      | 100 |                |   |                   |                  | Clay Loam |          |
| 11 - 14           | 10YR 5/1      | 88  | 10YR 6/8       | 5 | C                 | M                | Clay      | Gravelly |
| 11 - 14           |               |     | 5Y 5/1         | 7 | D                 | M                |           |          |
| -                 |               |     |                |   |                   |                  |           |          |
| -                 |               |     |                |   |                   |                  |           |          |
| -                 |               |     |                |   |                   |                  |           |          |
| -                 |               |     |                |   |                   |                  |           |          |
| -                 |               |     |                |   |                   |                  |           |          |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils<sup>3</sup>:**

|   |  |   |
|---|--|---|
| <input type="checkbox"/> Histosol (A1)                                | <input type="checkbox"/> Sandy Redox (S5)                                  | <input type="checkbox"/> 2 cm Muck (A10)                  |
| <input type="checkbox"/> Histic Epipedon (A2)                         | <input type="checkbox"/> Stripped Matrix (S6)                              | <input type="checkbox"/> Red Parent Material (TF2)        |
| <input type="checkbox"/> Black Histic (A3)                            | <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> ) | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                        | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                          | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3)                              |   |
| <input type="checkbox"/> Thick Dark Surface (A12)                     | <input type="checkbox"/> Redox Dark Surface (F6)                           |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)                     | <input type="checkbox"/> Depleted Dark Surface (F7)                        |   |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)                     | <input type="checkbox"/> Redox Depressions (F8)                            |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Prominent redoximorphic concentrations common within the depleted matrix.

## HYDROLOGY

**Wetland Hydrology Indicators:**Primary Indicators (minimum of one required; check all that apply)

|  |  |
|--|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Water-Stained Leaves (B9) ( <b>except MLRA 1, 2, 4A, and 4B</b> ) |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Salt Crust (B11)  |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> Aquatic Invertebrates (B13)                                       |
| <input type="checkbox"/> Water Marks (B1)                          | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)  |
| <input type="checkbox"/> Sediment Deposits (B2)                    | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)                     |
| <input type="checkbox"/> Drift Deposits (B3)                       | <input type="checkbox"/> Presence of Reduced Iron (C4)                                     |
| <input type="checkbox"/> Algal Mat or Crust (B4)                   | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)                        |
| <input type="checkbox"/> Iron Deposits (B5)                        | <input type="checkbox"/> Stunted or Stressed Plants (D1) ( <b>LRR A</b> )                  |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Other (Explain in Remarks)  |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)   |  |

Secondary Indicators (2 or more required)

|   |
|---|
| <input type="checkbox"/> Water-Stained Leaves (B9) ( <b>MLRA 1, 2, 4A, and 4B</b> ) |
| <input type="checkbox"/> Drainage Patterns (B10)                                    |
| <input type="checkbox"/> Dry-Season Water Table (C2)                                |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)                  |
| <input checked="" type="checkbox"/> Geomorphic Position (D2)                        |
| <input type="checkbox"/> Shallow Aquitard (D3)                                      |
| <input checked="" type="checkbox"/> FAC-Neutral Test (D5)                           |
| <input type="checkbox"/> Raised Ant Mounds (D6) ( <b>LRR A</b> )                    |
| <input type="checkbox"/> Frost-Heave Hummocks (D7)                                  |

**Field Observations:**Surface Water Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_Water Table Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_Saturation Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_

(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Evidence of wetland hydrology includes a positive fac-neutral test and geomorphic position.

# WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: US93 N Peterson City/County: Lake County Sampling Date: 2023-06-21  
 Applicant/Owner: MDT State: Montana Sampling Point: DP02u  
 Investigator(s): S Weyant Section, Township, Range: S35 T19N R20W  
 Landform (hillslope, terrace, etc.): Valley Floor Local relief (concave, convex, none): Linear Slope (%): 0  
 Subregion (LRR): E 44 Lat: 47.361097 Long: -114.097981 Datum: NAD 83  
 Soil Map Unit Name: 22 - Colake silt loam, 0 to 1 percent slopes NWI classification: Not mapped

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 ✓ 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.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes _____ No <u>✓</u>   | Is the Sampled Area within a Wetland? Yes _____ No <u>✓</u> |
| Hydric Soil Present? Yes _____ No <u>✓</u>  |   |
| Wetland Hydrology Present? Yes _____ No <u>✓</u>  |   |
| Remarks:<br>Upland sample point in southeast corner of the site. Hydrologic conditions on the site are atypical. The U.S. Drought Monitor Index for Lake County, MT during the site visit is D1 (moderate drought). |   |

## VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft r</u> )                 | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test worksheet:<br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>2</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.00</u> (A/B) |
|---|------------------|-------------------|------------------|--|
| 1. _____  | _____            | _____             | _____            |  |
| 2. _____  | _____            | _____             | _____            |  |
| 3. _____  | _____            | _____             | _____            |  |
| 4. _____  | _____            | _____             | _____            |  |
| Sapling/Shrub Stratum (Plot size: <u>15 ft r</u> )        |                  |                   |                  |  |
| 1. _____  | _____            | _____             | _____            |  |
| 2. _____  | _____            | _____             | _____            |  |
| 3. _____  | _____            | _____             | _____            |  |
| 4. _____  | _____            | _____             | _____            |  |
| 5. _____  | _____            | _____             | _____            |  |
| Herb Stratum (Plot size: <u>5 ft r</u> )                  |                  |                   |                  |  |
| 1. <u>Bromus inermis</u>                                  | <u>70</u>        | <u>✓</u>          | <u>UPL</u>       |  |
| 2. <u>Elymus repens</u>                                   | <u>20</u>        | <u>✓</u>          | <u>FAC</u>       |  |
| 3. <u>Lepidium draba</u>                                  | <u>4</u>         |                   | <u>UPL</u>       |  |
| 4. <u>Thlaspi arvense</u>                                 | <u>3</u>         |                   | <u>UPL</u>       |  |
| 5. <u>Brassica juncea</u>                                 | <u>2</u>         |                   | <u>UPL</u>       |  |
| 6. <u>Lactuca serriola</u>                                | <u>1</u>         |                   | <u>FACU</u>      |  |
| 7. _____  | _____            | _____             | _____            |  |
| 8. _____  | _____            | _____             | _____            |  |
| 9. _____  | _____            | _____             | _____            |  |
| 10. _____   | _____            | _____             | _____            |  |
| 11. _____   | _____            | _____             | _____            |  |
| Woody Vine Stratum (Plot size: _____)                     |                  |                   |                  |  |
| 1. _____  | _____            | _____             | _____            |  |
| 2. _____  | _____            | _____             | _____            |  |
| % Bare Ground in Herb Stratum <u>0</u>                    |                  |                   |                  |  |
| Remarks:<br>Data point is dominated by upland vegetation. |                  |                   |                  |  |

# SOIL

Sampling Point: DP02u

## Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

| Depth<br>(inches) | Matrix        |     | Redox Features |   |                   |                  | Texture   | Remarks |
|-------------------|---------------|-----|----------------|---|-------------------|------------------|-----------|---------|
|                   | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |           |         |
| 0 - 16            | 10YR 2/2      | 100 |                |   |                   |                  | Silt Loam |         |
| -                 |               |     |                |   |                   |                  |           |         |
| -                 |               |     |                |   |                   |                  |           |         |
| -                 |               |     |                |   |                   |                  |           |         |
| -                 |               |     |                |   |                   |                  |           |         |
| -                 |               |     |                |   |                   |                  |           |         |
| -                 |               |     |                |   |                   |                  |           |         |
| -                 |               |     |                |   |                   |                  |           |         |
| -                 |               |     |                |   |                   |                  |           |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- |  |  |
|--|--|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)                                  |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)                              |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> ) |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                          |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3)                              |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Redox Dark Surface (F6)                           |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Depleted Dark Surface (F7)                        |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          | <input type="checkbox"/> Redox Depressions (F8)                            |

### Indicators for Problematic Hydric Soils<sup>3</sup>:

- |   |
|---|
| <input type="checkbox"/> 2 cm Muck (A10)                  |
| <input type="checkbox"/> Red Parent Material (TF2)        |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (Explain in Remarks)       |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

### Restrictive Layer (if present):

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No ☒

Remarks:

**No hydric soil indicators observed.**

# HYDROLOGY

## Wetland Hydrology Indicators:

### Primary Indicators (minimum of one required; check all that apply)

- |  |  |
|--|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Water-Stained Leaves (B9) ( <b>except MLRA 1, 2, 4A, and 4B</b> ) |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Salt Crust (B11)  |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> Aquatic Invertebrates (B13)                                       |
| <input type="checkbox"/> Water Marks (B1)                          | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)  |
| <input type="checkbox"/> Sediment Deposits (B2)                    | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)                     |
| <input type="checkbox"/> Drift Deposits (B3)                       | <input type="checkbox"/> Presence of Reduced Iron (C4)                                     |
| <input type="checkbox"/> Algal Mat or Crust (B4)                   | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)                        |
| <input type="checkbox"/> Iron Deposits (B5)                        | <input type="checkbox"/> Stunted or Stressed Plants (D1) ( <b>LRR A</b> )                  |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Other (Explain in Remarks)  |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)   |  |

### Secondary Indicators (2 or more required)

- |   |
|---|
| <input type="checkbox"/> Water-Stained Leaves (B9) ( <b>MLRA 1, 2, 4A, and 4B</b> ) |
| <input type="checkbox"/> Drainage Patterns (B10)                                    |
| <input type="checkbox"/> Dry-Season Water Table (C2)                                |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)                  |
| <input type="checkbox"/> Geomorphic Position (D2)                                   |
| <input type="checkbox"/> Shallow Aquitard (D3)                                      |
| <input type="checkbox"/> FAC-Neutral Test (D5)                                      |
| <input type="checkbox"/> Raised Ant Mounds (D6) ( <b>LRR A</b> )                    |
| <input type="checkbox"/> Frost-Heave Hummocks (D7)                                  |

### Field Observations:

Surface Water Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_

Water Table Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_

Saturation Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)

Wetland Hydrology Present? Yes \_\_\_\_\_ No ☒

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

Remarks:

**No evidence of wetland hydrology observed. Soils bone dry.**

# WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: US93 N Peterson City/County: Lake County Sampling Date: 2023-06-21  
 Applicant/Owner: MDT State: Montana Sampling Point: DP02w  
 Investigator(s): S Weyant Section, Township, Range: S35 T19N R20W  
 Landform (hillslope, terrace, etc.): Fringe Local relief (concave, convex, none): None Slope (%): 3  
 Subregion (LRR): E 44 Lat: 47.361165 Long: -114.097975 Datum: NAD 83  
 Soil Map Unit Name: 22 - Colake silt loam, 0 to 1 percent slopes NWI classification: PEM1C

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 ☒ 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.

|  |   |          |  |  |
|--|---|----------|--|--|
| Hydrophytic Vegetation Present?  | Yes <input checked="" type="checkbox"/> | No _____ | Is the Sampled Area<br>within a Wetland? | Yes <input checked="" type="checkbox"/> No _____ |
| Hydric Soil Present?   | Yes <input checked="" type="checkbox"/> | No _____ |  |  |
| Wetland Hydrology Present?   | Yes <input checked="" type="checkbox"/> | No _____ |  |  |
| Remarks:<br>PEM, riverine wetland. Sample point located approximately 6" from active channel. Hydrologic conditions on the site are atypical. The U.S. Drought Monitor Index for Lake County, MT during the site visit is D1 (moderate drought). |   |          |  |  |

## VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft r</u> )  | Absolute<br>% Cover | Dominant<br>Species? | Indicator<br>Status | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>1</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.00</u> (A/B)   |                   |              |                      |                |                        |                  |                      |                 |                       |                |                      |                |                              |                |
|--|---------------------|----------------------|---------------------|--|-------------------|--------------|----------------------|----------------|------------------------|------------------|----------------------|-----------------|-----------------------|----------------|----------------------|----------------|------------------------------|----------------|
| 1. _____   | _____               | _____                | _____               |  |                   |              |                      |                |                        |                  |                      |                 |                       |                |                      |                |                              |                |
| 2. _____   | _____               | _____                | _____               |  |                   |              |                      |                |                        |                  |                      |                 |                       |                |                      |                |                              |                |
| 3. _____   | _____               | _____                | _____               |  |                   |              |                      |                |                        |                  |                      |                 |                       |                |                      |                |                              |                |
| 4. _____   | _____               | _____                | _____               | <b>Prevalence Index worksheet:</b><br><table border="0"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </tr> <tr> <td>OBL species <u>1</u></td> <td>x 1 = <u>1</u></td> </tr> <tr> <td>FACW species <u>85</u></td> <td>x 2 = <u>170</u></td> </tr> <tr> <td>FAC species <u>4</u></td> <td>x 3 = <u>12</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>1</u></td> <td>x 5 = <u>5</u></td> </tr> <tr> <td>Column Totals: <u>91</u> (A)</td> <td><u>188</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.07</u>   | Total % Cover of: | Multiply by: | OBL species <u>1</u> | x 1 = <u>1</u> | FACW species <u>85</u> | x 2 = <u>170</u> | FAC species <u>4</u> | x 3 = <u>12</u> | FACU species <u>0</u> | x 4 = <u>0</u> | UPL species <u>1</u> | x 5 = <u>5</u> | Column Totals: <u>91</u> (A) | <u>188</u> (B) |
| Total % Cover of:  | Multiply by:        |                      |                     |  |                   |              |                      |                |                        |                  |                      |                 |                       |                |                      |                |                              |                |
| OBL species <u>1</u>   | x 1 = <u>1</u>      |                      |                     |  |                   |              |                      |                |                        |                  |                      |                 |                       |                |                      |                |                              |                |
| FACW species <u>85</u>   | x 2 = <u>170</u>    |                      |                     |  |                   |              |                      |                |                        |                  |                      |                 |                       |                |                      |                |                              |                |
| FAC species <u>4</u>   | x 3 = <u>12</u>     |                      |                     |  |                   |              |                      |                |                        |                  |                      |                 |                       |                |                      |                |                              |                |
| FACU species <u>0</u>  | x 4 = <u>0</u>      |                      |                     |  |                   |              |                      |                |                        |                  |                      |                 |                       |                |                      |                |                              |                |
| UPL species <u>1</u>   | x 5 = <u>5</u>      |                      |                     |  |                   |              |                      |                |                        |                  |                      |                 |                       |                |                      |                |                              |                |
| Column Totals: <u>91</u> (A)   | <u>188</u> (B)      |                      |                     |  |                   |              |                      |                |                        |                  |                      |                 |                       |                |                      |                |                              |                |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft r</u>)</b><br>1. _____<br>2. _____<br>3. _____<br>4. _____<br>5. _____<br>_____ = Total Cover  |                     |                      |                     |  |                   |              |                      |                |                        |                  |                      |                 |                       |                |                      |                |                              |                |
| <b>Herb Stratum (Plot size: <u>5 ft r</u>)</b><br>1. <u>Phalaris arundinacea</u> <u>85</u> <input checked="" type="checkbox"/> <u>FACW</u><br>2. <u>Solanum dulcamara</u> <u>4</u> _____ <u>FAC</u><br>3. <u>Brassica juncea</u> <u>1</u> _____ <u>UPL</u><br>4. <u>Carex stipata</u> <u>1</u> _____ <u>OBL</u><br>5. _____<br>6. _____<br>7. _____<br>8. _____<br>9. _____<br>10. _____<br>11. _____<br>_____ = Total Cover |                     |                      |                     |  |                   |              |                      |                |                        |                  |                      |                 |                       |                |                      |                |                              |                |
| <b>Woody Vine Stratum (Plot size: _____)</b><br>1. _____<br>2. _____<br>_____ = Total Cover<br>% Bare Ground in Herb Stratum <u>10</u>   |                     |                      |                     | <b>Hydrophytic Vegetation Indicators:</b><br><input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input checked="" type="checkbox"/> 2 - Dominance Test is >50%<br><input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br>___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br>___ 5 - Wetland Non-Vascular Plants <sup>1</sup><br>___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |                   |              |                      |                |                        |                  |                      |                 |                       |                |                      |                |                              |                |
| Remarks:<br>Evidence of wetland hydrology includes a positive rapid test, a positive dominance test, and a prevalence index less than or equal to 3.0.   |                     |                      |                     |  |                   |              |                      |                |                        |                  |                      |                 |                       |                |                      |                |                              |                |

# SOIL

Sampling Point: DP02w

## Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

| Depth<br>(inches) | Matrix        |     | Redox Features |   |                   |                  | Texture    | Remarks              |
|-------------------|---------------|-----|----------------|---|-------------------|------------------|------------|----------------------|
|                   | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |            |                      |
| 0 - 5             | 10YR 4/1      | 100 |                |   |                   |                  | Mucky Peat | Mucky peat + mineral |
| 5 - 12            | 5Y 2.5/1      | 100 |                |   |                   |                  | Clay Loam  | Sulfidic odor        |
| -                 |               |     |                |   |                   |                  |            |                      |
| -                 |               |     |                |   |                   |                  |            |                      |
| -                 |               |     |                |   |                   |                  |            |                      |
| -                 |               |     |                |   |                   |                  |            |                      |
| -                 |               |     |                |   |                   |                  |            |                      |
| -                 |               |     |                |   |                   |                  |            |                      |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- |  |  |
|--|--|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)                                  |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)                              |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> ) |
| <input checked="" type="checkbox"/> Hydrogen Sulfide (A4)  | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                          |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3)                              |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Redox Dark Surface (F6)                           |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Depleted Dark Surface (F7)                        |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          | <input type="checkbox"/> Redox Depressions (F8)                            |

### Indicators for Problematic Hydric Soils<sup>3</sup>:

- |   |
|---|
| <input type="checkbox"/> 2 cm Muck (A10)                  |
| <input type="checkbox"/> Red Parent Material (TF2)        |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (Explain in Remarks)       |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

### Restrictive Layer (if present):

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Evidence of hydric soil includes sulfidic odor.

# HYDROLOGY

## Wetland Hydrology Indicators:

### Primary Indicators (minimum of one required; check all that apply)

- |  |  |
|--|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Water-Stained Leaves (B9) ( <b>except MLRA 1, 2, 4A, and 4B</b> ) |
| <input checked="" type="checkbox"/> High Water Table (A2)          | <input type="checkbox"/> Salt Crust (B11)  |
| <input checked="" type="checkbox"/> Saturation (A3)                | <input type="checkbox"/> Aquatic Invertebrates (B13)                                       |
| <input type="checkbox"/> Water Marks (B1)                          | <input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)                             |
| <input type="checkbox"/> Sediment Deposits (B2)                    | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)                     |
| <input type="checkbox"/> Drift Deposits (B3)                       | <input type="checkbox"/> Presence of Reduced Iron (C4)                                     |
| <input type="checkbox"/> Algal Mat or Crust (B4)                   | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)                        |
| <input type="checkbox"/> Iron Deposits (B5)                        | <input type="checkbox"/> Stunted or Stressed Plants (D1) ( <b>LRR A</b> )                  |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Other (Explain in Remarks)  |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)   |  |

### Secondary Indicators (2 or more required)

- |   |
|---|
| <input type="checkbox"/> Water-Stained Leaves (B9) ( <b>MLRA 1, 2, 4A, and 4B</b> ) |
| <input type="checkbox"/> Drainage Patterns (B10)                                    |
| <input type="checkbox"/> Dry-Season Water Table (C2)                                |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)                  |
| <input checked="" type="checkbox"/> Geomorphic Position (D2)                        |
| <input type="checkbox"/> Shallow Aquitard (D3)                                      |
| <input checked="" type="checkbox"/> FAC-Neutral Test (D5)                           |
| <input type="checkbox"/> Raised Ant Mounds (D6) ( <b>LRR A</b> )                    |
| <input type="checkbox"/> Frost-Heave Hummocks (D7)                                  |

### Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_

Water Table Present? Yes ☒ No ☐ Depth (inches): 8

Saturation Present? Yes ☒ No ☐ Depth (inches): 0  
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Evidence of wetland hydrology includes saturation to the soil surface, high water table, sulfidic odor, a positive fac-neutral test, and geomorphic position.

# WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: US93 N Peterson City/County: Lake County Sampling Date: 2023-06-22  
 Applicant/Owner: MDT State: Montana Sampling Point: DP03u  
 Investigator(s): S Weyant Section, Township, Range: S35 T19N R20W  
 Landform (hillslope, terrace, etc.): Valley Floor Local relief (concave, convex, none): Linear Slope (%): 0  
 Subregion (LRR): E 44 Lat: 47.362315 Long: -114.101246 Datum: NAD 83  
 Soil Map Unit Name: 22 - Colake silt loam, 0 to 1 percent slopes NWI classification: PEM1C

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 ☒ 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.

|  |  |   |
|--|--|---|
| Hydrophytic Vegetation Present?  | Yes _____ No <input checked="" type="checkbox"/> | Is the Sampled Area<br>within a Wetland? Yes _____ No <input checked="" type="checkbox"/> |
| Hydric Soil Present?   | Yes _____ No <input checked="" type="checkbox"/> |   |
| Wetland Hydrology Present?   | Yes _____ No <input checked="" type="checkbox"/> |   |
| Remarks:<br>Upland sample point located adjacent to log crib structured installed in 2020. Area was previously delineated as wetland and is no longer supported by wetland hydrology. Hydrologic conditions on the site are atypical. The U.S. Drought Monitor Index for Lake County, MT during the site visit is D1 (moderate drought). |  |   |

## VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft r</u> )                | Absolute % Cover | Dominant Species?                   | Indicator Status | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>3</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.33</u> (A/B)  |
|--|------------------|-------------------------------------|------------------|--|
| 1. _____   | _____            | _____                               | _____            |  |
| 2. _____   | _____            | _____                               | _____            |  |
| 3. _____   | _____            | _____                               | _____            |  |
| 4. _____   | _____            | _____                               | _____            |  |
| <u>0</u> = Total Cover                                   |                  |                                     |                  | <b>Prevalence Index worksheet:</b><br>Total % Cover of: Multiply by:<br>OBL species <u>8</u> x 1 = <u>8</u><br>FACW species <u>27</u> x 2 = <u>54</u><br>FAC species <u>20</u> x 3 = <u>60</u><br>FACU species <u>35</u> x 4 = <u>140</u><br>UPL species <u>5</u> x 5 = <u>25</u><br>Column Totals: <u>95</u> (A) <u>287</u> (B)<br><br>Prevalence Index = B/A = <u>3.02</u>   |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft r</u>)</b> |                  |                                     |                  |  |
| 1. <u>Rosa woodsii</u>                                   | <u>5</u>         | <input checked="" type="checkbox"/> | <u>FACU</u>      |  |
| 2. _____   | _____            | _____                               | _____            |  |
| 3. _____   | _____            | _____                               | _____            |  |
| <u>5</u> = Total Cover                                   |                  |                                     |                  | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> 5 - Wetland Non-Vascular Plants <sup>1</sup><br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| <b>Herb Stratum (Plot size: <u>5 ft r</u>)</b>           |                  |                                     |                  |  |
| 1. <u>Phalaris arundinacea</u>                           | <u>27</u>        | <input checked="" type="checkbox"/> | <u>FACW</u>      |  |
| 2. <u>Pascopyrum smithii</u>                             | <u>25</u>        | <input checked="" type="checkbox"/> | <u>FACU</u>      |  |
| 3. <u>Elymus repens</u>                                  | <u>15</u>        | _____                               | <u>FAC</u>       |  |
| 4. <u>Carex nebrascensis</u>                             | <u>8</u>         | _____                               | <u>OBL</u>       |  |
| 5. <u>Brassica juncea</u>                                | <u>5</u>         | _____                               | <u>UPL</u>       |  |
| 6. <u>Schedonorus pratensis</u>                          | <u>3</u>         | _____                               | <u>FACU</u>      |  |
| 7. <u>Carex pachystachya</u>                             | <u>2</u>         | _____                               | <u>FAC</u>       |  |
| 8. <u>Cirsium arvense</u>                                | <u>2</u>         | _____                               | <u>FAC</u>       |  |
| 9. <u>Plantago lanceolata</u>                            | <u>1</u>         | _____                               | <u>FACU</u>      |  |
| 10. <u>Poa pratensis</u>                                 | <u>1</u>         | _____                               | <u>FAC</u>       |  |
| 11. <u>Leucanthemum vulgare</u>                          | <u>1</u>         | _____                               | <u>FACU</u>      |  |
| <u>90</u> = Total Cover                                  |                  |                                     |                  | <b>Hydrophytic Vegetation Present?</b> Yes _____ No <input checked="" type="checkbox"/>  |
| <b>Woody Vine Stratum (Plot size: _____)</b>             |                  |                                     |                  |  |
| 1. _____   | _____            | _____                               | _____            |  |
| <u>0</u> = Total Cover                                   |                  |                                     |                  |  |
| <b>% Bare Ground in Herb Stratum <u>10</u></b>           |                  |                                     |                  |  |

Remarks:  
 Data point includes hydrophytic and upland rated plant species. No hydrophytic vegetation indicators present.

# SOIL

Sampling Point: DP03u

## Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

| Depth<br>(inches) | Matrix        |     | Redox Features |   |                   |                  | Texture   | Remarks |
|-------------------|---------------|-----|----------------|---|-------------------|------------------|-----------|---------|
|                   | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |           |         |
| 0 - 7             | 10YR 2/2      | 100 |                |   |                   |                  | Clay Loam |         |
| -                 |               |     |                |   |                   |                  |           |         |
| -                 |               |     |                |   |                   |                  |           |         |
| -                 |               |     |                |   |                   |                  |           |         |
| -                 |               |     |                |   |                   |                  |           |         |
| -                 |               |     |                |   |                   |                  |           |         |
| -                 |               |     |                |   |                   |                  |           |         |
| -                 |               |     |                |   |                   |                  |           |         |
| -                 |               |     |                |   |                   |                  |           |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- |  |  |
|--|--|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)                                  |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)                              |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> ) |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                          |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3)                              |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Redox Dark Surface (F6)                           |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Depleted Dark Surface (F7)                        |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          | <input type="checkbox"/> Redox Depressions (F8)                            |

### Indicators for Problematic Hydric Soils<sup>3</sup>:

- |   |
|---|
| <input type="checkbox"/> 2 cm Muck (A10)                  |
| <input type="checkbox"/> Red Parent Material (TF2)        |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (Explain in Remarks)       |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

### Restrictive Layer (if present):

Type: Bedrock  
Depth (inches): 7

Hydric Soil Present? Yes ☐ No ☒

Remarks:

**No hydric soil indicators present.**

# HYDROLOGY

## Wetland Hydrology Indicators:

### Primary Indicators (minimum of one required; check all that apply)

- |  |  |
|--|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Water-Stained Leaves (B9) ( <b>except MLRA 1, 2, 4A, and 4B</b> ) |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Salt Crust (B11)  |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> Aquatic Invertebrates (B13)                                       |
| <input type="checkbox"/> Water Marks (B1)                          | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)  |
| <input type="checkbox"/> Sediment Deposits (B2)                    | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)                     |
| <input type="checkbox"/> Drift Deposits (B3)                       | <input type="checkbox"/> Presence of Reduced Iron (C4)                                     |
| <input type="checkbox"/> Algal Mat or Crust (B4)                   | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)                        |
| <input type="checkbox"/> Iron Deposits (B5)                        | <input type="checkbox"/> Stunted or Stressed Plants (D1) ( <b>LRR A</b> )                  |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Other (Explain in Remarks)  |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)   |  |

### Secondary Indicators (2 or more required)

- |   |
|---|
| <input type="checkbox"/> Water-Stained Leaves (B9) ( <b>MLRA 1, 2, 4A, and 4B</b> ) |
| <input type="checkbox"/> Drainage Patterns (B10)                                    |
| <input type="checkbox"/> Dry-Season Water Table (C2)                                |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)                  |
| <input type="checkbox"/> Geomorphic Position (D2)                                   |
| <input type="checkbox"/> Shallow Aquitard (D3)                                      |
| <input type="checkbox"/> FAC-Neutral Test (D5)                                      |
| <input type="checkbox"/> Raised Ant Mounds (D6) ( <b>LRR A</b> )                    |
| <input type="checkbox"/> Frost-Heave Hummocks (D7)                                  |

### Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_  
Water Table Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_  
Saturation Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks:

**No evidence of wetland hydrology observed. Soil is bone dry.**

# WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: US93 N Peterson City/County: Lake County Sampling Date: 2023-06-22  
 Applicant/Owner: MDT State: Montana Sampling Point: DP03w  
 Investigator(s): S Weyant Section, Township, Range: S35 T19N R20W  
 Landform (hillslope, terrace, etc.): Valley Floor Local relief (concave, convex, none): Linear Slope (%): 0  
 Subregion (LRR): E 44 Lat: 47.362248 Long: -114.101268 Datum: NAD 83  
 Soil Map Unit Name: 22 - Colake silt loam, 0 to 1 percent slopes NWI classification: PEM1C

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 ☒ 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.

|   |   |          |  |
|---|---|----------|--|
| Hydrophytic Vegetation Present?   | Yes <input checked="" type="checkbox"/> | No _____ | <b>Is the Sampled Area within a Wetland?</b><br>Yes <input checked="" type="checkbox"/> No _____ |
| Hydric Soil Present?  | Yes <input checked="" type="checkbox"/> | No _____ |  |
| Wetland Hydrology Present?  | Yes <input checked="" type="checkbox"/> | No _____ |  |
| Remarks:<br>PEM, riverine wetland. Sample point is located upstream of the upstream-most log crib structure installed in 2020. Hydrologic conditions on the site are atypical. The U.S. Drought Monitor Index for Lake County, MT during the site visit is D1 (moderate drought). |   |          |  |

## VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft r</u> )   | Absolute % Cover | Dominant Species?                   | Indicator Status        | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>2</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.00</u> (A/B)  |                   |              |                       |                 |                        |                  |                      |                 |                       |                |                      |                 |                              |                |
|---|------------------|-------------------------------------|-------------------------|---|-------------------|--------------|-----------------------|-----------------|------------------------|------------------|----------------------|-----------------|-----------------------|----------------|----------------------|-----------------|------------------------------|----------------|
| 1. _____  | _____            | _____                               | _____                   |   |                   |              |                       |                 |                        |                  |                      |                 |                       |                |                      |                 |                              |                |
| 2. _____  | _____            | _____                               | _____                   |   |                   |              |                       |                 |                        |                  |                      |                 |                       |                |                      |                 |                              |                |
| 3. _____  | _____            | _____                               | _____                   |   |                   |              |                       |                 |                        |                  |                      |                 |                       |                |                      |                 |                              |                |
| 4. _____  | _____            | _____                               | _____                   |   |                   |              |                       |                 |                        |                  |                      |                 |                       |                |                      |                 |                              |                |
|   |                  |                                     | <u>0</u> = Total Cover  |   |                   |              |                       |                 |                        |                  |                      |                 |                       |                |                      |                 |                              |                |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft r</u>)</b>  |                  |                                     |                         |   |                   |              |                       |                 |                        |                  |                      |                 |                       |                |                      |                 |                              |                |
| 1. _____  | _____            | _____                               | _____                   | <b>Prevalence Index worksheet:</b><br><table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>28</u></td> <td>x 1 = <u>28</u></td> </tr> <tr> <td>FACW species <u>60</u></td> <td>x 2 = <u>120</u></td> </tr> <tr> <td>FAC species <u>5</u></td> <td>x 3 = <u>15</u></td> </tr> <tr> <td>FACU species <u>2</u></td> <td>x 4 = <u>8</u></td> </tr> <tr> <td>UPL species <u>3</u></td> <td>x 5 = <u>15</u></td> </tr> <tr> <td>Column Totals: <u>98</u> (A)</td> <td><u>186</u> (B)</td> </tr> </table> | Total % Cover of: | Multiply by: | OBL species <u>28</u> | x 1 = <u>28</u> | FACW species <u>60</u> | x 2 = <u>120</u> | FAC species <u>5</u> | x 3 = <u>15</u> | FACU species <u>2</u> | x 4 = <u>8</u> | UPL species <u>3</u> | x 5 = <u>15</u> | Column Totals: <u>98</u> (A) | <u>186</u> (B) |
| Total % Cover of:   | Multiply by:     |                                     |                         |   |                   |              |                       |                 |                        |                  |                      |                 |                       |                |                      |                 |                              |                |
| OBL species <u>28</u>   | x 1 = <u>28</u>  |                                     |                         |   |                   |              |                       |                 |                        |                  |                      |                 |                       |                |                      |                 |                              |                |
| FACW species <u>60</u>  | x 2 = <u>120</u> |                                     |                         |   |                   |              |                       |                 |                        |                  |                      |                 |                       |                |                      |                 |                              |                |
| FAC species <u>5</u>  | x 3 = <u>15</u>  |                                     |                         |   |                   |              |                       |                 |                        |                  |                      |                 |                       |                |                      |                 |                              |                |
| FACU species <u>2</u>   | x 4 = <u>8</u>   |                                     |                         |   |                   |              |                       |                 |                        |                  |                      |                 |                       |                |                      |                 |                              |                |
| UPL species <u>3</u>  | x 5 = <u>15</u>  |                                     |                         |   |                   |              |                       |                 |                        |                  |                      |                 |                       |                |                      |                 |                              |                |
| Column Totals: <u>98</u> (A)  | <u>186</u> (B)   |                                     |                         |   |                   |              |                       |                 |                        |                  |                      |                 |                       |                |                      |                 |                              |                |
| 2. _____  | _____            | _____                               | _____                   |   |                   |              |                       |                 |                        |                  |                      |                 |                       |                |                      |                 |                              |                |
| 3. _____  | _____            | _____                               | _____                   |   |                   |              |                       |                 |                        |                  |                      |                 |                       |                |                      |                 |                              |                |
| 4. _____  | _____            | _____                               | _____                   |   |                   |              |                       |                 |                        |                  |                      |                 |                       |                |                      |                 |                              |                |
| 5. _____  | _____            | _____                               | _____                   |   |                   |              |                       |                 |                        |                  |                      |                 |                       |                |                      |                 |                              |                |
|   |                  |                                     | <u>0</u> = Total Cover  |   |                   |              |                       |                 |                        |                  |                      |                 |                       |                |                      |                 |                              |                |
| <b>Herb Stratum (Plot size: <u>5 ft r</u>)</b>  |                  |                                     |                         |   |                   |              |                       |                 |                        |                  |                      |                 |                       |                |                      |                 |                              |                |
| 1. <u>Phalaris arundinacea</u>  | <u>60</u>        | <input checked="" type="checkbox"/> | <u>FACW</u>             |   |                   |              |                       |                 |                        |                  |                      |                 |                       |                |                      |                 |                              |                |
| 2. <u>Carex stipata</u>   | <u>28</u>        | <input checked="" type="checkbox"/> | <u>OBL</u>              |   |                   |              |                       |                 |                        |                  |                      |                 |                       |                |                      |                 |                              |                |
| 3. <u>Brassica juncea</u>   | <u>3</u>         |                                     | <u>UPL</u>              |   |                   |              |                       |                 |                        |                  |                      |                 |                       |                |                      |                 |                              |                |
| 4. <u>Poa pratensis</u>   | <u>2</u>         |                                     | <u>FAC</u>              |   |                   |              |                       |                 |                        |                  |                      |                 |                       |                |                      |                 |                              |                |
| 5. <u>Poa palustris</u>   | <u>1</u>         |                                     | <u>FAC</u>              |   |                   |              |                       |                 |                        |                  |                      |                 |                       |                |                      |                 |                              |                |
| 6. <u>Leucanthemum vulgare</u>  | <u>1</u>         |                                     | <u>FACU</u>             |   |                   |              |                       |                 |                        |                  |                      |                 |                       |                |                      |                 |                              |                |
| 7. <u>Cirsium arvense</u>   | <u>1</u>         |                                     | <u>FAC</u>              |   |                   |              |                       |                 |                        |                  |                      |                 |                       |                |                      |                 |                              |                |
| 8. <u>Elymus repens</u>   | <u>1</u>         |                                     | <u>FAC</u>              |   |                   |              |                       |                 |                        |                  |                      |                 |                       |                |                      |                 |                              |                |
| 9. <u>Gallium aperiene</u>  | <u>1</u>         |                                     | <u>FACU</u>             |   |                   |              |                       |                 |                        |                  |                      |                 |                       |                |                      |                 |                              |                |
| 10. _____   | _____            | _____                               | _____                   |   |                   |              |                       |                 |                        |                  |                      |                 |                       |                |                      |                 |                              |                |
| 11. _____   | _____            | _____                               | _____                   |   |                   |              |                       |                 |                        |                  |                      |                 |                       |                |                      |                 |                              |                |
|   |                  |                                     | <u>98</u> = Total Cover |   |                   |              |                       |                 |                        |                  |                      |                 |                       |                |                      |                 |                              |                |
| <b>Woody Vine Stratum (Plot size: _____)</b>  |                  |                                     |                         |   |                   |              |                       |                 |                        |                  |                      |                 |                       |                |                      |                 |                              |                |
| 1. _____  | _____            | _____                               | _____                   |   |                   |              |                       |                 |                        |                  |                      |                 |                       |                |                      |                 |                              |                |
| 2. _____  | _____            | _____                               | _____                   |   |                   |              |                       |                 |                        |                  |                      |                 |                       |                |                      |                 |                              |                |
|   |                  |                                     | <u>0</u> = Total Cover  |   |                   |              |                       |                 |                        |                  |                      |                 |                       |                |                      |                 |                              |                |
| % Bare Ground in Herb Stratum <u>2</u>  |                  |                                     |                         |   |                   |              |                       |                 |                        |                  |                      |                 |                       |                |                      |                 |                              |                |
| Remarks:<br>Evidence of hydrophytic vegetation includes a positive rapid test, a positive dominance test, and a prevalence index less than or equal to 3.0. |                  |                                     |                         |   |                   |              |                       |                 |                        |                  |                      |                 |                       |                |                      |                 |                              |                |



## SOIL

Sampling Point: DP03w

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth<br>(inches) | Matrix        |     | Redox Features |   |                   |                  | Texture   | Remarks |
|-------------------|---------------|-----|----------------|---|-------------------|------------------|-----------|---------|
|                   | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |           |         |
| 0 - 10            | 10YR 2/1      | 100 |                |   |                   |                  | Clay Loam |         |
| 10 - 24           | 2.5Y 3/2      | 95  | 10YR 5/2       | 5 | D                 | M                | Clay Loam |         |
| -                 |               |     |                |   |                   |                  |           |         |
| -                 |               |     |                |   |                   |                  |           |         |
| -                 |               |     |                |   |                   |                  |           |         |
| -                 |               |     |                |   |                   |                  |           |         |
| -                 |               |     |                |   |                   |                  |           |         |
| -                 |               |     |                |   |                   |                  |           |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils<sup>3</sup>:**

|   |  |   |
|---|--|---|
| <input type="checkbox"/> Histosol (A1)                                | <input type="checkbox"/> Sandy Redox (S5)                                  | <input type="checkbox"/> 2 cm Muck (A10)                  |
| <input type="checkbox"/> Histic Epipedon (A2)                         | <input type="checkbox"/> Stripped Matrix (S6)                              | <input type="checkbox"/> Red Parent Material (TF2)        |
| <input type="checkbox"/> Black Histic (A3)                            | <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> ) | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                        | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                          | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3)                              |   |
| <input type="checkbox"/> Thick Dark Surface (A12)                     | <input type="checkbox"/> Redox Dark Surface (F6)                           |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)                     | <input type="checkbox"/> Depleted Dark Surface (F7)                        |   |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)                     | <input type="checkbox"/> Redox Depressions (F8)                            |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Distinct redoximorphic concentrations common within the depleted matrix.

## HYDROLOGY

**Wetland Hydrology Indicators:**Primary Indicators (minimum of one required; check all that apply)

|  |  |
|--|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Water-Stained Leaves (B9) ( <b>except MLRA 1, 2, 4A, and 4B</b> ) |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Salt Crust (B11)  |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> Aquatic Invertebrates (B13)                                       |
| <input type="checkbox"/> Water Marks (B1)                          | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)  |
| <input type="checkbox"/> Sediment Deposits (B2)                    | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)                     |
| <input type="checkbox"/> Drift Deposits (B3)                       | <input type="checkbox"/> Presence of Reduced Iron (C4)                                     |
| <input type="checkbox"/> Algal Mat or Crust (B4)                   | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)                        |
| <input type="checkbox"/> Iron Deposits (B5)                        | <input type="checkbox"/> Stunted or Stressed Plants (D1) ( <b>LRR A</b> )                  |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Other (Explain in Remarks)  |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)   |  |

Secondary Indicators (2 or more required)

|   |
|---|
| <input type="checkbox"/> Water-Stained Leaves (B9) ( <b>MLRA 1, 2, 4A, and 4B</b> ) |
| <input type="checkbox"/> Drainage Patterns (B10)                                    |
| <input type="checkbox"/> Dry-Season Water Table (C2)                                |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)                  |
| <input checked="" type="checkbox"/> Geomorphic Position (D2)                        |
| <input type="checkbox"/> Shallow Aquitard (D3)                                      |
| <input checked="" type="checkbox"/> FAC-Neutral Test (D5)                           |
| <input type="checkbox"/> Raised Ant Mounds (D6) ( <b>LRR A</b> )                    |
| <input type="checkbox"/> Frost-Heave Hummocks (D7)                                  |

**Field Observations:**Surface Water Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_Water Table Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_Saturation Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Evidence of wetland hydrology includes a positive fac-neutral test and geomorphic position. Soils slightly moist.

# WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: US93 N Peterson City/County: Lake County Sampling Date: 2023-06-22  
 Applicant/Owner: MDT State: Montana Sampling Point: DP04u  
 Investigator(s): S Weyant Section, Township, Range: S35 T19N R20W  
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): Convex Slope (%): 25  
 Subregion (LRR): E 44 Lat: 47.362814 Long: -114.101757 Datum: NAD 83  
 Soil Map Unit Name: 143 - Ronan silty clay loam, 4 to 8 percent slopes NWI classification: Not mapped

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 ☒ 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.

|  |  |   |
|--|--|---|
| Hydrophytic Vegetation Present?  | Yes _____ No <input checked="" type="checkbox"/> | Is the Sampled Area<br>within a Wetland? Yes _____ No <input checked="" type="checkbox"/> |
| Hydric Soil Present?   | Yes _____ No <input checked="" type="checkbox"/> |   |
| Wetland Hydrology Present?   | Yes _____ No <input checked="" type="checkbox"/> |   |
| Remarks:<br>Upland sample point is located on hillside and located approximately 2.5' higher in elevation than DP04w. Hydrologic conditions on the site are atypical. The U.S. Drought Monitor Index for Lake County, MT during the site visit is D1 (moderate drought). |  |   |

## VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft r</u> )                        | Absolute % Cover | Dominant Species?                   | Indicator Status | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>2</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.00</u> (A/B)   |
|--|------------------|-------------------------------------|------------------|--|
| 1. _____   | _____            | _____                               | _____            |  |
| 2. _____   | _____            | _____                               | _____            |  |
| 3. _____   | _____            | _____                               | _____            |  |
| 4. _____   | _____            | _____                               | _____            |  |
| <u>0</u> = Total Cover   |                  |                                     |                  | <b>Prevalence Index worksheet:</b><br>Total % Cover of: Multiply by:<br>OBL species <u>0</u> x 1 = <u>0</u><br>FACW species <u>0</u> x 2 = <u>0</u><br>FAC species <u>0</u> x 3 = <u>0</u><br>FACU species <u>15</u> x 4 = <u>60</u><br>UPL species <u>55</u> x 5 = <u>275</u><br>Column Totals: <u>70</u> (A) <u>335</u> (B)<br><br>Prevalence Index = B/A = <u>4.79</u>  |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft r</u>)</b>         |                  |                                     |                  |  |
| 1. _____   | _____            | _____                               | _____            |  |
| 2. _____   | _____            | _____                               | _____            |  |
| 3. _____   | _____            | _____                               | _____            |  |
| <u>0</u> = Total Cover   |                  |                                     |                  |  |
| <b>Herb Stratum (Plot size: <u>5 ft r</u>)</b>                   |                  |                                     |                  | <b>Hydrophytic Vegetation Indicators:</b><br>___ 1 - Rapid Test for Hydrophytic Vegetation<br>___ 2 - Dominance Test is >50%<br>___ 3 - Prevalence Index is ≤3.0 <sup>1</sup><br>___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br>___ 5 - Wetland Non-Vascular Plants <sup>1</sup><br>___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 1. <u>Bromus inermis</u>   | <u>45</u>        | <input checked="" type="checkbox"/> | <u>UPL</u>       |  |
| 2. <u>Gallium aperiene</u>                                       | <u>15</u>        | <input checked="" type="checkbox"/> | <u>FACU</u>      |  |
| 3. <u>Lepidium draba</u>   | <u>10</u>        |                                     | <u>UPL</u>       |  |
| 4. _____   | _____            | _____                               | _____            |  |
| 5. _____   | _____            | _____                               | _____            |  |
| 6. _____   | _____            | _____                               | _____            |  |
| 7. _____   | _____            | _____                               | _____            |  |
| 8. _____   | _____            | _____                               | _____            |  |
| 9. _____   | _____            | _____                               | _____            |  |
| 10. _____  | _____            | _____                               | _____            |  |
| <u>70</u> = Total Cover  |                  |                                     |                  |  |
| <b>Woody Vine Stratum (Plot size: _____)</b>                     |                  |                                     |                  | <b>Hydrophytic Vegetation Present?</b> Yes _____ No <input checked="" type="checkbox"/>  |
| 1. _____   | _____            | _____                               | _____            |  |
| 2. _____   | _____            | _____                               | _____            |  |
| <u>0</u> = Total Cover   |                  |                                     |                  |  |
| % Bare Ground in Herb Stratum <u>30</u>                          |                  |                                     |                  |  |
| Remarks:<br><b>Data point is dominated by upland vegetation.</b> |                  |                                     |                  |  |

## SOIL

Sampling Point: DP04u

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth<br>(inches) | Matrix        |     | Redox Features |   |                   |                  | Texture   | Remarks |
|-------------------|---------------|-----|----------------|---|-------------------|------------------|-----------|---------|
|                   | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |           |         |
| 0 - 6             | 10YR 3/1      | 100 |                |   |                   |                  | Clay Loam |         |
| 6 - 12            | 10YR 3/1      | 100 |                |   |                   |                  | Clay      |         |
| -                 |               |     |                |   |                   |                  |           |         |
| -                 |               |     |                |   |                   |                  |           |         |
| -                 |               |     |                |   |                   |                  |           |         |
| -                 |               |     |                |   |                   |                  |           |         |
| -                 |               |     |                |   |                   |                  |           |         |
| -                 |               |     |                |   |                   |                  |           |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils<sup>3</sup>:**

|  |  |   |
|--|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)                                  | <input type="checkbox"/> 2 cm Muck (A10)                  |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)                              | <input type="checkbox"/> Red Parent Material (TF2)        |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> ) | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                          | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3)                              |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Redox Dark Surface (F6)                           |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Depleted Dark Surface (F7)                        |   |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          | <input type="checkbox"/> Redox Depressions (F8)                            |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if present):**Type: BedrockDepth (inches): 12Hydric Soil Present? Yes ☐ No ☒

Remarks:

No hydric soil indicators observed.

## HYDROLOGY

**Wetland Hydrology Indicators:**Primary Indicators (minimum of one required; check all that apply)

|  |  |
|--|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Water-Stained Leaves (B9) ( <b>except MLRA 1, 2, 4A, and 4B</b> ) |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Salt Crust (B11)  |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> Aquatic Invertebrates (B13)                                       |
| <input type="checkbox"/> Water Marks (B1)                          | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)  |
| <input type="checkbox"/> Sediment Deposits (B2)                    | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)                     |
| <input type="checkbox"/> Drift Deposits (B3)                       | <input type="checkbox"/> Presence of Reduced Iron (C4)                                     |
| <input type="checkbox"/> Algal Mat or Crust (B4)                   | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)                        |
| <input type="checkbox"/> Iron Deposits (B5)                        | <input type="checkbox"/> Stunted or Stressed Plants (D1) ( <b>LRR A</b> )                  |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Other (Explain in Remarks)  |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)   |  |

Secondary Indicators (2 or more required)

|   |
|---|
| <input type="checkbox"/> Water-Stained Leaves (B9) ( <b>MLRA 1, 2, 4A, and 4B</b> ) |
| <input type="checkbox"/> Drainage Patterns (B10)                                    |
| <input type="checkbox"/> Dry-Season Water Table (C2)                                |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)                  |
| <input type="checkbox"/> Geomorphic Position (D2)                                   |
| <input type="checkbox"/> Shallow Aquitard (D3)                                      |
| <input type="checkbox"/> FAC-Neutral Test (D5)                                      |
| <input type="checkbox"/> Raised Ant Mounds (D6) ( <b>LRR A</b> )                    |
| <input type="checkbox"/> Frost-Heave Hummocks (D7)                                  |

**Field Observations:**

|  |   |                                   |
|--|---|-----------------------------------|
| Surface Water Present?                             | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Depth (inches): <u>          </u> |
| Water Table Present?                               | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Depth (inches): <u>          </u> |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Depth (inches): <u>          </u> |

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks:

No evidence of wetland hydrology observed. Soils dry.

# WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: US93 N Peterson City/County: Lake County Sampling Date: 2023-06-22  
 Applicant/Owner: MDT State: Montana Sampling Point: DP04w  
 Investigator(s): S Weyant Section, Township, Range: S35 T19N R20W  
 Landform (hillslope, terrace, etc.): Valley Floor Local relief (concave, convex, none): Linear Slope (%): 0  
 Subregion (LRR): E 44 Lat: 47.362707 Long: -114.101827 Datum: NAD 83  
 Soil Map Unit Name: 143 - Ronan silty clay loam, 4 to 8 percent slopes NWI classification: PEM1C

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 ☒ 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.

|   |  |   |
|---|--|---|
| Hydrophytic Vegetation Present?   | Yes <input checked="" type="checkbox"/> No _____ | Is the Sampled Area<br>within a Wetland? Yes <input checked="" type="checkbox"/> No _____ |
| Hydric Soil Present?  | Yes <input checked="" type="checkbox"/> No _____ |   |
| Wetland Hydrology Present?  | Yes <input checked="" type="checkbox"/> No _____ |   |
| Remarks:<br>PEM, riverine wetland. Sample point approximately 30' north of stream channel. Hydrologic conditions on the site are atypical. The U.S. Drought Monitor Index for Lake County, MT during the site visit is D1 (moderate drought). |  |   |

## VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft r</u> )   | Absolute % Cover | Dominant Species? | Indicator Status | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>1</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.00</u> (A/B)   |                   |              |                      |                |                        |                  |                      |                |                       |                |                      |                 |                              |                |
|---|------------------|-------------------|------------------|--|-------------------|--------------|----------------------|----------------|------------------------|------------------|----------------------|----------------|-----------------------|----------------|----------------------|-----------------|------------------------------|----------------|
| 1. _____  | _____            | _____             | _____            |  |                   |              |                      |                |                        |                  |                      |                |                       |                |                      |                 |                              |                |
| 2. _____  | _____            | _____             | _____            |  |                   |              |                      |                |                        |                  |                      |                |                       |                |                      |                 |                              |                |
| 3. _____  | _____            | _____             | _____            |  |                   |              |                      |                |                        |                  |                      |                |                       |                |                      |                 |                              |                |
| 4. _____  | _____            | _____             | _____            |  |                   |              |                      |                |                        |                  |                      |                |                       |                |                      |                 |                              |                |
| <u>0</u> = Total Cover  |                  |                   |                  | <b>Prevalence Index worksheet:</b><br><table border="0"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>70</u></td> <td>x 2 = <u>140</u></td> </tr> <tr> <td>FAC species <u>1</u></td> <td>x 3 = <u>3</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>4</u></td> <td>x 5 = <u>20</u></td> </tr> <tr> <td>Column Totals: <u>75</u> (A)</td> <td><u>163</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.17</u>   | Total % Cover of: | Multiply by: | OBL species <u>0</u> | x 1 = <u>0</u> | FACW species <u>70</u> | x 2 = <u>140</u> | FAC species <u>1</u> | x 3 = <u>3</u> | FACU species <u>0</u> | x 4 = <u>0</u> | UPL species <u>4</u> | x 5 = <u>20</u> | Column Totals: <u>75</u> (A) | <u>163</u> (B) |
| Total % Cover of:   | Multiply by:     |                   |                  |  |                   |              |                      |                |                        |                  |                      |                |                       |                |                      |                 |                              |                |
| OBL species <u>0</u>  | x 1 = <u>0</u>   |                   |                  |  |                   |              |                      |                |                        |                  |                      |                |                       |                |                      |                 |                              |                |
| FACW species <u>70</u>  | x 2 = <u>140</u> |                   |                  |  |                   |              |                      |                |                        |                  |                      |                |                       |                |                      |                 |                              |                |
| FAC species <u>1</u>  | x 3 = <u>3</u>   |                   |                  |  |                   |              |                      |                |                        |                  |                      |                |                       |                |                      |                 |                              |                |
| FACU species <u>0</u>   | x 4 = <u>0</u>   |                   |                  |  |                   |              |                      |                |                        |                  |                      |                |                       |                |                      |                 |                              |                |
| UPL species <u>4</u>  | x 5 = <u>20</u>  |                   |                  |  |                   |              |                      |                |                        |                  |                      |                |                       |                |                      |                 |                              |                |
| Column Totals: <u>75</u> (A)  | <u>163</u> (B)   |                   |                  |  |                   |              |                      |                |                        |                  |                      |                |                       |                |                      |                 |                              |                |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft r</u>)</b><br>1. _____<br>2. _____<br>3. _____<br>4. _____<br>5. _____<br><u>0</u> = Total Cover  |                  |                   |                  |  |                   |              |                      |                |                        |                  |                      |                |                       |                |                      |                 |                              |                |
| <b>Herb Stratum (Plot size: <u>5 ft r</u>)</b><br>1. <u>Phalaris arundinacea</u> <u>70</u> <input checked="" type="checkbox"/> <u>FACW</u><br>2. <u>Brassica juncea</u> <u>4</u> _____ <u>UPL</u><br>3. <u>Geum macrophyllum</u> <u>1</u> _____ <u>FAC</u><br>4. _____<br>5. _____<br>6. _____<br>7. _____<br>8. _____<br>9. _____<br>10. _____<br>11. _____<br><u>75</u> = Total Cover |                  |                   |                  | <b>Hydrophytic Vegetation Indicators:</b><br><input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input checked="" type="checkbox"/> 2 - Dominance Test is >50%<br><input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br>___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br>___ 5 - Wetland Non-Vascular Plants <sup>1</sup><br>___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |                   |              |                      |                |                        |                  |                      |                |                       |                |                      |                 |                              |                |
| <b>Woody Vine Stratum (Plot size: _____)</b><br>1. _____<br>2. _____<br><u>0</u> = Total Cover<br><br>% Bare Ground in Herb Stratum <u>25</u>   |                  |                   |                  |  |                   |              |                      |                |                        |                  |                      |                |                       |                |                      |                 |                              |                |
| <b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____   |                  |                   |                  |  |                   |              |                      |                |                        |                  |                      |                |                       |                |                      |                 |                              |                |
| Remarks:<br>Evidence of hydrophytic vegetation includes a positive rapid test, a positive dominance test, and a prevalence index less than or equal to 3.0.   |                  |                   |                  |  |                   |              |                      |                |                        |                  |                      |                |                       |                |                      |                 |                              |                |

# SOIL

Sampling Point: DP04w

## Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

| Depth<br>(inches) | Matrix        |     | Redox Features |   |                   |                  | Texture   | Remarks |
|-------------------|---------------|-----|----------------|---|-------------------|------------------|-----------|---------|
|                   | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |           |         |
| 0 - 6             | 10YR 3/2      | 100 |                |   |                   |                  | Clay Loam |         |
| 6 - 12            | 10YR 3/1      | 97  | 10YR 5/8       | 3 | C                 | M                | Clay Loam |         |
| -                 |               |     |                |   |                   |                  |           |         |
| -                 |               |     |                |   |                   |                  |           |         |
| -                 |               |     |                |   |                   |                  |           |         |
| -                 |               |     |                |   |                   |                  |           |         |
| -                 |               |     |                |   |                   |                  |           |         |
| -                 |               |     |                |   |                   |                  |           |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- |  |  |
|--|--|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)                                  |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)                              |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> ) |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                          |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3)                              |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input checked="" type="checkbox"/> Redox Dark Surface (F6)                |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Depleted Dark Surface (F7)                        |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          | <input type="checkbox"/> Redox Depressions (F8)                            |

### Indicators for Problematic Hydric Soils<sup>3</sup>:

- |   |
|---|
| <input type="checkbox"/> 2 cm Muck (A10)                  |
| <input type="checkbox"/> Red Parent Material (TF2)        |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (Explain in Remarks)       |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

### Restrictive Layer (if present):

Type: Bedrock  
Depth (inches): 12

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Prominent redoximorphic concentrations common within the matrix.

# HYDROLOGY

## Wetland Hydrology Indicators:

### Primary Indicators (minimum of one required; check all that apply)

- |  |  |
|--|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Water-Stained Leaves (B9) ( <b>except MLRA 1, 2, 4A, and 4B</b> ) |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Salt Crust (B11)  |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> Aquatic Invertebrates (B13)                                       |
| <input type="checkbox"/> Water Marks (B1)                          | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)  |
| <input type="checkbox"/> Sediment Deposits (B2)                    | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)                     |
| <input type="checkbox"/> Drift Deposits (B3)                       | <input type="checkbox"/> Presence of Reduced Iron (C4)                                     |
| <input type="checkbox"/> Algal Mat or Crust (B4)                   | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)                        |
| <input type="checkbox"/> Iron Deposits (B5)                        | <input type="checkbox"/> Stunted or Stressed Plants (D1) ( <b>LRR A</b> )                  |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Other (Explain in Remarks)  |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)   |  |

### Secondary Indicators (2 or more required)

- |   |
|---|
| <input type="checkbox"/> Water-Stained Leaves (B9) ( <b>MLRA 1, 2, 4A, and 4B</b> ) |
| <input type="checkbox"/> Drainage Patterns (B10)                                    |
| <input type="checkbox"/> Dry-Season Water Table (C2)                                |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)                  |
| <input checked="" type="checkbox"/> Geomorphic Position (D2)                        |
| <input type="checkbox"/> Shallow Aquitard (D3)                                      |
| <input checked="" type="checkbox"/> FAC-Neutral Test (D5)                           |
| <input type="checkbox"/> Raised Ant Mounds (D6) ( <b>LRR A</b> )                    |
| <input type="checkbox"/> Frost-Heave Hummocks (D7)                                  |

### Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_  
Water Table Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_  
Saturation Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Evidence of wetland hydrology includes a positive fac-neutral test and geomorphic position. Soil is moist.

# WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: US93 N Peterson City/County: Lake County Sampling Date: 2023-06-23  
 Applicant/Owner: MDT State: Montana Sampling Point: DP05u  
 Investigator(s): S Weyant Section, Township, Range: S35 T19N R20W  
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): Undulating Slope (%): 30  
 Subregion (LRR): E 44 Lat: 47.361986 Long: -114.101968 Datum: NAD 83  
 Soil Map Unit Name: 143 - Ronan silty clay loam, 4 to 8 percent slopes NWI classification: Not mapped

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 ☒ 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.

|  |  |   |
|--|--|---|
| Hydrophytic Vegetation Present?  | Yes <input checked="" type="checkbox"/> No _____ | Is the Sampled Area<br>within a Wetland? Yes _____ No <input checked="" type="checkbox"/> |
| Hydric Soil Present?   | Yes _____ No <input checked="" type="checkbox"/> |   |
| Wetland Hydrology Present?   | Yes _____ No <input checked="" type="checkbox"/> |   |
| Remarks:<br>Upland sample point on hillside in northwest portion of site. Hydrologic conditions on the site are atypical. The U.S. Drought Monitor Index for Lake County, MT during the site visit is D1 (moderate drought). |  |   |

## VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft r</u> )   | Absolute % Cover | Dominant Species? | Indicator Status | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>1</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.00</u> (A/B)  |
|---|------------------|-------------------|------------------|---|
| 1. _____  | _____            | _____             | _____            |   |
| 2. _____  | _____            | _____             | _____            |   |
| 3. _____  | _____            | _____             | _____            |   |
| 4. _____  | _____            | _____             | _____            |   |
| Sapling/Shrub Stratum (Plot size: <u>15 ft r</u> )<br>1. _____<br>2. _____<br>3. _____<br>4. _____<br>5. _____<br>0 = Total Cover   |                  |                   |                  | <b>Prevalence Index worksheet:</b><br>Total % Cover of: Multiply by:<br>OBL species <u>0</u> x 1 = <u>0</u><br>FACW species <u>0</u> x 2 = <u>0</u><br>FAC species <u>85</u> x 3 = <u>255</u><br>FACU species <u>0</u> x 4 = <u>0</u><br>UPL species <u>0</u> x 5 = <u>0</u><br>Column Totals: <u>85</u> (A) <u>255</u> (B)<br><br>Prevalence Index = B/A = <u>3.00</u> |
| Herb Stratum (Plot size: <u>5 ft r</u> )<br>1. <u>Poa pratensis</u> <u>80</u> <input checked="" type="checkbox"/> <u>FAC</u><br>2. <u>Elymus repens</u> <u>5</u> <u>FAC</u><br>3. _____<br>4. _____<br>5. _____<br>6. _____<br>7. _____<br>8. _____<br>9. _____<br>10. _____<br>11. _____<br>85 = Total Cover |                  |                   |                  |   |
| Woody Vine Stratum (Plot size: _____)<br>1. _____<br>2. _____<br>0 = Total Cover  |                  |                   |                  |   |
| % Bare Ground in Herb Stratum <u>13</u>   |                  |                   |                  |   |
| Remarks:  |                  |                   |                  |   |

Vegetation at the data point is comprised of the FAC rated species creeping wild rye and Kentucky bluegrass.

## SOIL

Sampling Point: DP05u**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth<br>(inches) | Matrix        |     | Redox Features |   |                   |                  | Texture   | Remarks |
|-------------------|---------------|-----|----------------|---|-------------------|------------------|-----------|---------|
|                   | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |           |         |
| 0 - 7             | 7.5YR 3/2     | 100 |                |   |                   |                  | Clay Loam |         |
| 7 - 16            | 10YR 3/1      | 100 |                |   |                   |                  | Clay Loam |         |
| -                 |               |     |                |   |                   |                  |           |         |
| -                 |               |     |                |   |                   |                  |           |         |
| -                 |               |     |                |   |                   |                  |           |         |
| -                 |               |     |                |   |                   |                  |           |         |
| -                 |               |     |                |   |                   |                  |           |         |
| -                 |               |     |                |   |                   |                  |           |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils<sup>3</sup>:**

|  |  |   |
|--|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)                                  | <input type="checkbox"/> 2 cm Muck (A10)                  |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)                              | <input type="checkbox"/> Red Parent Material (TF2)        |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> ) | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                          | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3)                              |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Redox Dark Surface (F6)                           |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Depleted Dark Surface (F7)                        |   |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          | <input type="checkbox"/> Redox Depressions (F8)                            |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No ☒

Remarks:

Soil is very compacted. Soil horizon has few clay pockets with relict mottles (10YR 5/3).

## HYDROLOGY

**Wetland Hydrology Indicators:**Primary Indicators (minimum of one required; check all that apply)

|  |  |
|--|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Water-Stained Leaves (B9) ( <b>except MLRA 1, 2, 4A, and 4B</b> ) |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Salt Crust (B11)  |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> Aquatic Invertebrates (B13)                                       |
| <input type="checkbox"/> Water Marks (B1)                          | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)  |
| <input type="checkbox"/> Sediment Deposits (B2)                    | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)                     |
| <input type="checkbox"/> Drift Deposits (B3)                       | <input type="checkbox"/> Presence of Reduced Iron (C4)                                     |
| <input type="checkbox"/> Algal Mat or Crust (B4)                   | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)                        |
| <input type="checkbox"/> Iron Deposits (B5)                        | <input type="checkbox"/> Stunted or Stressed Plants (D1) ( <b>LRR A</b> )                  |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Other (Explain in Remarks)  |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)   |  |

Secondary Indicators (2 or more required)

|   |
|---|
| <input type="checkbox"/> Water-Stained Leaves (B9) ( <b>MLRA 1, 2, 4A, and 4B</b> ) |
| <input type="checkbox"/> Drainage Patterns (B10)                                    |
| <input type="checkbox"/> Dry-Season Water Table (C2)                                |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)                  |
| <input type="checkbox"/> Geomorphic Position (D2)                                   |
| <input type="checkbox"/> Shallow Aquitard (D3)                                      |
| <input type="checkbox"/> FAC-Neutral Test (D5)                                      |
| <input type="checkbox"/> Raised Ant Mounds (D6) ( <b>LRR A</b> )                    |
| <input type="checkbox"/> Frost-Heave Hummocks (D7)                                  |

**Field Observations:**Surface Water Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_Water Table Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_Saturation Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)Wetland Hydrology Present? Yes \_\_\_\_\_ No ☒

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

Remarks:

No evidence of wetland hydrology observed. Soil is bone dry.

# WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: US93 N Peterson City/County: Lake County Sampling Date: 2023-06-23  
 Applicant/Owner: MDT State: Montana Sampling Point: DP05w  
 Investigator(s): S Weyant Section, Township, Range: S35 T19N R20W  
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): Undulating Slope (%): 30  
 Subregion (LRR): E 44 Lat: 47.362004 Long: -114.10207 Datum: NAD 83  
 Soil Map Unit Name: 143 - Ronan silty clay loam, 4 to 8 percent slopes NWI classification: Not mapped

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 ☒ 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.

|   |  |   |
|---|--|---|
| Hydrophytic Vegetation Present?   | Yes <input checked="" type="checkbox"/> No _____ | Is the Sampled Area<br>within a Wetland? Yes <input checked="" type="checkbox"/> No _____ |
| Hydric Soil Present?  | Yes <input checked="" type="checkbox"/> No _____ |   |
| Wetland Hydrology Present?  | Yes <input checked="" type="checkbox"/> No _____ |   |
| Remarks:<br>PEM, slope wetland. This area is receiving groundwater from the irrigated pasture west and adjacent to the site. Hydrologic conditions on the site are atypical. The U.S. Drought Monitor Index for Lake County, MT during the site visit is D1 (moderate drought). |  |   |

## VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft r</u> )   | Absolute % Cover | Dominant Species? | Indicator Status | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>2</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.00</u> (A/B)   |                   |              |                       |                 |                       |                |                       |                  |                       |                |                      |                 |                              |                |
|---|------------------|-------------------|------------------|--|-------------------|--------------|-----------------------|-----------------|-----------------------|----------------|-----------------------|------------------|-----------------------|----------------|----------------------|-----------------|------------------------------|----------------|
| 1. _____  | _____            | _____             | _____            |  |                   |              |                       |                 |                       |                |                       |                  |                       |                |                      |                 |                              |                |
| 2. _____  | _____            | _____             | _____            |  |                   |              |                       |                 |                       |                |                       |                  |                       |                |                      |                 |                              |                |
| 3. _____  | _____            | _____             | _____            |  |                   |              |                       |                 |                       |                |                       |                  |                       |                |                      |                 |                              |                |
| 4. _____  | _____            | _____             | _____            |  |                   |              |                       |                 |                       |                |                       |                  |                       |                |                      |                 |                              |                |
| Sapling/Shrub Stratum (Plot size: <u>15 ft r</u> )<br>1. _____<br>2. _____<br>3. _____<br>4. _____<br>5. _____<br>0 = Total Cover   |                  |                   |                  | <b>Prevalence Index worksheet:</b><br><table border="0"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </tr> <tr> <td>OBL species <u>45</u></td> <td>x 1 = <u>45</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>39</u></td> <td>x 3 = <u>117</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>7</u></td> <td>x 5 = <u>35</u></td> </tr> <tr> <td>Column Totals: <u>91</u> (A)</td> <td><u>197</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.16</u>                   | Total % Cover of: | Multiply by: | OBL species <u>45</u> | x 1 = <u>45</u> | FACW species <u>0</u> | x 2 = <u>0</u> | FAC species <u>39</u> | x 3 = <u>117</u> | FACU species <u>0</u> | x 4 = <u>0</u> | UPL species <u>7</u> | x 5 = <u>35</u> | Column Totals: <u>91</u> (A) | <u>197</u> (B) |
| Total % Cover of:   | Multiply by:     |                   |                  |  |                   |              |                       |                 |                       |                |                       |                  |                       |                |                      |                 |                              |                |
| OBL species <u>45</u>   | x 1 = <u>45</u>  |                   |                  |  |                   |              |                       |                 |                       |                |                       |                  |                       |                |                      |                 |                              |                |
| FACW species <u>0</u>   | x 2 = <u>0</u>   |                   |                  |  |                   |              |                       |                 |                       |                |                       |                  |                       |                |                      |                 |                              |                |
| FAC species <u>39</u>   | x 3 = <u>117</u> |                   |                  |  |                   |              |                       |                 |                       |                |                       |                  |                       |                |                      |                 |                              |                |
| FACU species <u>0</u>   | x 4 = <u>0</u>   |                   |                  |  |                   |              |                       |                 |                       |                |                       |                  |                       |                |                      |                 |                              |                |
| UPL species <u>7</u>  | x 5 = <u>35</u>  |                   |                  |  |                   |              |                       |                 |                       |                |                       |                  |                       |                |                      |                 |                              |                |
| Column Totals: <u>91</u> (A)  | <u>197</u> (B)   |                   |                  |  |                   |              |                       |                 |                       |                |                       |                  |                       |                |                      |                 |                              |                |
| Herb Stratum (Plot size: <u>5 ft r</u> )<br>1. <u>Carex nebrascensis</u> <u>45</u> <input checked="" type="checkbox"/> OBL<br>2. <u>Poa pratensis</u> <u>30</u> <input checked="" type="checkbox"/> FAC<br>3. <u>Brassica juncea</u> <u>7</u> _____ UPL<br>4. <u>Juncus tenuis</u> <u>5</u> _____ FAC<br>5. <u>Poa palustris</u> <u>3</u> _____ FAC<br>6. <u>Elymus repens</u> <u>1</u> _____ FAC<br>7. _____<br>8. _____<br>9. _____<br>10. _____<br>11. _____<br>91 = Total Cover |                  |                   |                  | <b>Hydrophytic Vegetation Indicators:</b><br>_____ 1 - Rapid Test for Hydrophytic Vegetation<br><input checked="" type="checkbox"/> 2 - Dominance Test is >50%<br><input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br>_____ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br>_____ 5 - Wetland Non-Vascular Plants <sup>1</sup><br>_____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |                   |              |                       |                 |                       |                |                       |                  |                       |                |                      |                 |                              |                |
| Woody Vine Stratum (Plot size: _____)<br>1. _____<br>2. _____<br>0 = Total Cover  |                  |                   |                  |  |                   |              |                       |                 |                       |                |                       |                  |                       |                |                      |                 |                              |                |
| % Bare Ground in Herb Stratum <u>9</u>  |                  |                   |                  |  |                   |              |                       |                 |                       |                |                       |                  |                       |                |                      |                 |                              |                |
| Remarks:<br>Evidence of hydrophytic vegetation includes a positive dominance test and a prevalence index less than or equal to 3.0.   |                  |                   |                  |  |                   |              |                       |                 |                       |                |                       |                  |                       |                |                      |                 |                              |                |
| <b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____   |                  |                   |                  |  |                   |              |                       |                 |                       |                |                       |                  |                       |                |                      |                 |                              |                |



# SOIL

Sampling Point: DP05w

## Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

| Depth<br>(inches) | Matrix        |     | Redox Features |    |                   |                  | Texture         | Remarks |
|-------------------|---------------|-----|----------------|----|-------------------|------------------|-----------------|---------|
|                   | Color (moist) | %   | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0 - 7             | 7.5YR 2.5/1   | 100 |                |    |                   |                  | Silty Clay Loam |         |
| 7 - 16            | 2.5Y 3/2      | 90  | 10YR 5/1       | 10 | D                 | M                | Silty Clay Loam |         |
| -                 |               |     |                |    |                   |                  |                 |         |
| -                 |               |     |                |    |                   |                  |                 |         |
| -                 |               |     |                |    |                   |                  |                 |         |
| -                 |               |     |                |    |                   |                  |                 |         |
| -                 |               |     |                |    |                   |                  |                 |         |
| -                 |               |     |                |    |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- |  |  |
|--|--|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)                                  |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)                              |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> ) |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                          |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3)                              |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input checked="" type="checkbox"/> Redox Dark Surface (F6)                |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Depleted Dark Surface (F7)                        |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          | <input type="checkbox"/> Redox Depressions (F8)                            |

### Indicators for Problematic Hydric Soils<sup>3</sup>:

- |   |
|---|
| <input type="checkbox"/> 2 cm Muck (A10)                  |
| <input type="checkbox"/> Red Parent Material (TF2)        |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (Explain in Remarks)       |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

### Restrictive Layer (if present):

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Distinct redoximorphic depletions common within the matrix.

# HYDROLOGY

## Wetland Hydrology Indicators:

### Primary Indicators (minimum of one required; check all that apply)

- |  |  |
|--|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Water-Stained Leaves (B9) ( <b>except MLRA 1, 2, 4A, and 4B</b> ) |
| <input checked="" type="checkbox"/> High Water Table (A2)          | <input type="checkbox"/> Salt Crust (B11)  |
| <input checked="" type="checkbox"/> Saturation (A3)                | <input type="checkbox"/> Aquatic Invertebrates (B13)                                       |
| <input type="checkbox"/> Water Marks (B1)                          | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)  |
| <input type="checkbox"/> Sediment Deposits (B2)                    | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)                     |
| <input type="checkbox"/> Drift Deposits (B3)                       | <input type="checkbox"/> Presence of Reduced Iron (C4)                                     |
| <input type="checkbox"/> Algal Mat or Crust (B4)                   | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)                        |
| <input type="checkbox"/> Iron Deposits (B5)                        | <input type="checkbox"/> Stunted or Stressed Plants (D1) ( <b>LRR A</b> )                  |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Other (Explain in Remarks)  |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)   |  |

### Secondary Indicators (2 or more required)

- |   |
|---|
| <input type="checkbox"/> Water-Stained Leaves (B9) ( <b>MLRA 1, 2, 4A, and 4B</b> ) |
| <input type="checkbox"/> Drainage Patterns (B10)                                    |
| <input type="checkbox"/> Dry-Season Water Table (C2)                                |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)                  |
| <input type="checkbox"/> Geomorphic Position (D2)                                   |
| <input type="checkbox"/> Shallow Aquitard (D3)                                      |
| <input checked="" type="checkbox"/> FAC-Neutral Test (D5)                           |
| <input type="checkbox"/> Raised Ant Mounds (D6) ( <b>LRR A</b> )                    |
| <input type="checkbox"/> Frost-Heave Hummocks (D7)                                  |

### Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_

Water Table Present? Yes ☒ No ☐ Depth (inches): 10

Saturation Present? Yes ☒ No ☐ Depth (inches): 0  
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Evidence of wetland hydrology includes saturation to the soil surface, high water table, and a positive fac-neutral test.

# MDT Montana Wetland Assessment Form (revised March 2008)

1. **Project Name:** US 93 Peterson  
 2. **MDT Project #:** NH-5-2(122)31 **Control #:** 9680000  
 3. **Evaluation Date:** 06/22/2023 **4. Evaluator(s):** S Weyant  
**5. Wetlands/Site #(s):** AA-1  
 6. **Wetland Location(s): i. Legal:** T19N,R20W,35  
**Latitude/Longitude:** 47.361687, -114.099664 : Centroid of  
**ii. Approx. Stationing or Mileposts:** RP 35.5 US 93 North  
**iii. Watershed:** 4

**Watershed Name, County:** Flathead, Lake

7. **a. Evaluating Agency:** CCI - MDT

**b. Purpose of Evaluation:**

1. ☐ Wetlands potentially affected by MDT project
2. ☐ Mitigation wetlands; pre-construction
3. ☒ Mitigation wetlands; post-construction
4. ☐ Other:

**8. Wetland size:** 3.510 acres (measured)

**9. Assessment area (AA):** 3.510 acres (measured)

**10. Classification of Wetland and Aquatic Habitats in AA**

| HGM Class (Brinson) | Class (Cowardin) | Modifier (Cowardin) | Water Regime | % of AA |
|---------------------|------------------|---------------------|--------------|---------|
| R                   | EM               | I                   | PP           | 84.00   |
| S                   | EM               | I                   | SI           | 6.00    |
| R                   | SS               | I                   | PP           | 10.00   |

Abbreviations: (see manual for definitions)

**HGM Classes:** Riverine (R), Depressional (D), Slope (S), Mineral Soil Flats (MSF), Organic Soil Flats (OSF), Lacustrine 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)

**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)  
COMMON

**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) list)

| Conditions within AA  | Predominant conditions adjacent to (within 500 feet of) AA  |   |   |
|---|---|---|---|
|   | 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 >=15%. | 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, clearing, or hydrological alteration; high road or building density; or noxious weed or ANVS cover is > 30%. |
| 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%.  | low disturbance   | low disturbance   | moderate disturbance  |
| AA 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 <= | moderate disturbance  | moderate disturbance  | high disturbance  |
| AA cultivated or heavily grazed or logged; subject to relatively substantial fill placement, grading, clearing, or hydrological alteration; high road or building density; or noxious weed or ANVS cover is > 30%.                              | high disturbance  | high disturbance  | high disturbance  |

**Comments:** (types of disturbance, intensity, season, etc.): AA includes an unnamed perennial stream channel and adjacent fringe wetlands and slope wetland. Wetlands within the AA were constructed in 2006 and managed in a natural state. Adjacent area is subject to grazing.

**ii. Prominent noxious, aquatic nuisance, & other exotic vegetation species:** Cirsium arvense, Cynoglossum officinale, Iris pseudocorus, and Leucanthemum vulgare are present within the AA. Additionally, Lepidium draba and Ventenata dubia are prominent in the areas surrounding the AA.

**iii. Provide brief descriptive summary of AA and surrounding land use/habitat:** Rangeland to the north, south and west; US 93 corridor to the east. Woody vegetation is dispersed across the wetland, therefore a scrub shrub wetland class is included to capture its observed importance to wildlife (especially Passerines) on the site.

**13. Structural Diversity:** (based on number of "Cowardin" **vegetated** classes present [do not include unvegetated classes], see #10 above)

| Existing # of "Cowardin" Vegetated Classes in AA                 | Initial Rating | Is current management preventing (passive) existence of additional vegetated classes? |         | Modified Rating |
|--|----------------|---|---------|-----------------|
| >= 3 (or 2 if 1 is forested) classes                             | H              | NA  | NA      | NA              |
| 2 (or 1 if forested) classes                                     | M              | 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              |

**Comments:** Vegetated classes at the mitigation site include emergent and scrub-shrub.

## 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 habitat (list species)**      **Secondary habitat (list species)**      **Incidental habitat (list species)**  
 Grizzly Bear(D)

ii. **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 |
|------------------------------|-------------|-------------|---------------|---------------|----------------|----------------|------|
| Functional Points and Rating | 1H          | .9H         | <b>.8M</b>    | .7M           | .3L            | .1L            | 0L   |

Sources for documented use (e.g. observations, records, etc): Documented occurrence (CSKT Wildlife staff observation 2017/2018). Suspected occurrence (MTNHP 2023, USFWS IPaC 2023).

### 14B. Habitat for plant or animals rated S1, S2, or S3 by the Montana Natural Heritage Program: (not including species listed in 14A above)

i. 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)**  
 Great Blue Heron (S3)(S) - S2S3

ii. **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 |
|--|-------------|-------------|---------------|---------------|----------------|----------------|------|
| <b>S1 Species: Functional Points and Rating</b>        | 1H          | .8H         | .7M           | .6M           | .2L            | .1L            | 0L   |
| <b>S2 and S3 Species: Functional Points and Rating</b> | .9H         | .7M         | .6M           | .5M           | .2L            | <b>.1L</b>     | 0L   |

Sources for documented use (e.g. observations, records, etc): Great Blue Heron have been documented in the project vicinity (MTNHP Environmental Summary 2023).

### 14C. General Wildlife Habitat Rating:

i. **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

**Minimal** (based on any of the following [check]):

- ☐ few or no wildlife observations during peak use periods
- ☐ little to no wildlife sign
- ☐ sparse adjacent upland food sources
- ☐ 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

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])

| Structural diversity (see #13)                   | High |     |     |   |        |     |     |   | Moderate |     |     |   |          |     |     |   | Low  |     |     |   |
|--|------|-----|-----|---|--------|-----|-----|---|----------|-----|-----|---|----------|-----|-----|---|------|-----|-----|---|
| 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 | 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 | A |
| <b>Low</b> disturbance at AA (see #12i)          | E    | E   | E   | H | E      | E   | H   | H | E        | H   | H   | M | <b>E</b> | H   | M   | M | E    | H   | M   | M |
| <b>Moderate</b> disturbance at AA (see #12i)     | H    | H   | H   | H | H      | H   | H   | M | H        | H   | M   | M | H        | M   | M   | L | H    | M   | L   | L |
| <b>High</b> disturbance at AA (see #12i)         | M    | M   | M   | L | M      | M   | L   | L | M        | M   | L   | L | M        | 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)

| Evidence of wildlife use (i) | Wildlife habitat features rating (ii) |      |          |          |
|------------------------------|---------------------------------------|------|----------|----------|
|                              | Exceptional                           | High | Moderate | Moderate |
| <b>Substantial</b>           | 1E                                    | .9H  | .8H      | .7M      |
| <b>Moderate</b>              | <b>.9H</b>                            | .7M  | .5M      | .3L      |
| <b>Minimal</b>               | .6M                                   | .4M  | .2L      | .1L      |

**Comments:** General wildlife is rated high based on low disturbance to the area and moderate habitat use.

**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 mark NA and proceed to 14E.)

**Type of Fishery:** Cold Water (CW)      Warm Water (WW) X **Use the CW or WW guidelines in the user manual to complete the matrix**

**i. Habitat Quality and Known / Suspected Fish Species in AA** (use matrix to arrive at [circle] the functional points and rating)

| Duration of surface water in AA         | Permanent / Perennial |     |          |     |      |     | Seasonal / Intermittent |     |          |     |      |     | Temporary / Ephemeral |     |          |     |      |     |
|---|-----------------------|-----|----------|-----|------|-----|-------------------------|-----|----------|-----|------|-----|-----------------------|-----|----------|-----|------|-----|
| Aquatic hiding / resting / escape cover | Optimal               |     | Adequate |     | Poor |     | Optimal                 |     | Adequate |     | Poor |     | Optimal               |     | Adequate |     | Poor |     |
| Thermal cover optimal / suboptimal      | O                     | S   | O        | S   | O    | S   | O                       | S   | O        | S   | O    | S   | O                     | S   | O        | S   | O    | S   |
| FWP Tier I fish species                 | 1E                    | .9H | .8H      | .7M | .6M  | .5M | .9H                     | .8H | .7M      | .6M | .5M  | .4M | .7M                   | .6M | .5M      | .4M | .3L  | .2L |
| 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 |
| FWP Tier III or Introduced Game fish    | .8H                   | .7M | .6M      | .5M | .5M  | .4M | .7M                     | .6M | .5M      | .4M | .4M  | .3L | .5M                   | .4M | .3L      | .2L | .2L  | .1L |
| FWP Non-Game Tier IV or No fish species | .5M                   | .5M | .5M      | .4M | .4M  | .3L | .4M                     | .4M | .4M      | .3L | .3L  | .2L | .2L                   | .2L | .2L      | .1L | .1L  | .1L |

Sources used for identifying fish sp. potentially found in AA: Unidentified fish species.

**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? X 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 native fish or introduced game fish?      If yes, add 0.1 to the adjusted score in i or iia.

**iii. Final Score and Rating:** 0.3L

**Comments:** General fish habitat rated NA due to impassable barriers (log cribs) that prevented fish from using AA in previous years. Rating updated in 2021 with the observation of minnows in 2021 and 2022.

**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, mark NA and proceed to 14F.)

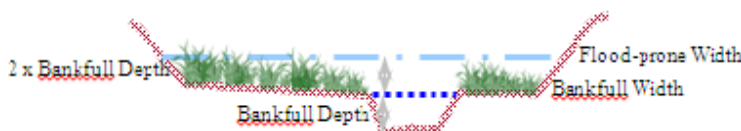
**i. Rating** (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)

| Estimated or Calculated Entrenchment (Rosgen 1994, 1996)       | Slightly entrenched - C, D, E stream types |        |      | Moderately entrenched – B stream type |        |      | Entrenched-A, F, G stream 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                     | 1H   | .9H    | .6M  | .8H                                   | .7M    | .5M  | .4M                             | .3L    | .2L  |
| AA contains unrestricted outlet                                | .9H  | .8H    | .5M  | .7M                                   | .6M    | .4M  | .3L                             | .2L    | .1L  |

**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.

$$\frac{4.6}{2} = 2.30$$

Flood-prone width      Bankfull width      Entrenchment ratio (ER)



| Slightly Entrenched<br>ER = >2.2 |               |               | Moderately Entrenched<br>ER = 1.41 – 2.2 | Entrenched<br>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)?**     

**Comments:** Log crib structures were installed as beaver dam analogues to spread flow out and create wetland habitat. The dense cattail marsh works to slow flood waters and functions similarly to woody vegetation, so the score was manually increased.

**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, NA 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 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 <b>&gt;= 5 out of 10 years</b>   | 1H           | .9H | .8H | <b>.8H</b>         | .6M | .5M | .4M           | .3L | .2L |
| Wetlands in AA flood or pond <b>&lt; 5 out of 10 years</b>  | .9H          | .8H | .7M | .7M                | .5M | .4M | .3L           | .2L | .1L |

**Comments:** Log crib structures impound and store water.

**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, NA 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 input levels within AA | AA receives or surrounding land use with potential to deliver levels of sediments, nutrients, or compounds at levels such that other functions are not substantially impaired. Minor sedimentation, sources of 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                     | >= 70%   |     | < 70% |     | >= 70%  |     | < 70% |     |  |
| Evidence of flooding / ponding in AA                    | Yes  | No  | Yes   | No  | Yes   | No  | Yes   | No  |  |
| AA contains <b>no or restricted outlet</b>              | <b>1H</b>  | .8H | .7M   | .5M | .5M   | .4M | .3L   | .2L |  |
| AA contains <b>unrestricted outlet</b>                  | .9H  | .7M | .6M   | .4M | .4M   | .3L | .2L   | .1L |  |

**Comments:** The AA routinely floods and is dominated by emergent vegetation, and has a restricted outlet created by log crib structures.

**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, NA 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 shoreline by species with stability ratings of >=6 (see <b>Appendix F</b> ). | Duration of surface water adjacent to rooted vegetation |                         |                       |
|--|---|-------------------------|-----------------------|
|  | Permanent / Perennial                                   | Seasonal / Intermittent | Temporary / Ephemeral |
| <b>&gt;= 65%</b>   | <b>1H</b>   | .9H                     | .7M                   |
| <b>35-64%</b>  | .7M   | .6M                     | .5M                   |
| <b>35%</b>   | .3L   | .2L                     | .1L                   |

**Comments:** The AA contains an unnamed tributary to Post Creek. Dominant wetland cover is provided by Typha latifolia and Phalaris arundinacea.

**14I. Production Export/Food Chain Support:**

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

| General Fish Habitat Rating (14D.iii.) | General Wildlife Habitat Rating (14C.iii.) |   |   |
|--|--|---|---|
|  | E/H  | M | L |
| E/H                                    | H  | H | M |
| M                                      | H  | M | M |
| L                                      | <b>M</b>                                   | M | L |
| N/A                                    | H  | 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            | Vegetated component >5 acres |     |          |     |     |     | Vegetated component 1-5 acres |     |            |     |     |     | Vegetated component < 1 acre |     |          |     |     |     |
|--------------|------------------------------|-----|----------|-----|-----|-----|-------------------------------|-----|------------|-----|-----|-----|------------------------------|-----|----------|-----|-----|-----|
| B            | High                         |     | Moderate |     | Low |     | High                          |     | Moderate   |     | Low |     | High                         |     | Moderate |     | Low |     |
| C            | Yes                          | No  | Yes      | No  | Yes | No  | Yes                           | No  | Yes        | No  | Yes | No  | Yes                          | No  | Yes      | No  | Yes | No  |
| <b>P/P</b>   | 1H                           | .7M | .8H      | .5M | .6M | .4M | .9H                           | .6M | <b>.7M</b> | .4M | .5M | .3L | .8H                          | .6M | .6M      | .4M | .3L | .2L |
| <b>S/I</b>   | .9H                          | .6M | .7M      | .4M | .5M | .3L | .8H                           | .5M | .6M        | .3L | .4M | .2L | .7M                          | .5M | .5M      | .3L | .3L | .2L |
| <b>T/E/A</b> | .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 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?

**X** If yes, add 0.1 to the score in ii above.

**iv. Final Score and Rating: 0.80H**

**Comments:** Vegetated component of AA is 3.51 acres of emergent wetland with a developing scrub-shrub component. The AA includes a permanent/perennial stream channel and surface water outlet.

14J. Groundwater Discharge/Recharge: (check the appropriate indicators in i & ii below)

**i. Discharge Indicators**

X

The AA is a slope wetland

Springs or seeps are known or observed

Vegetation growing during dormant season/drought

X

Wetland occurs at the toe of a natural slope

AA permanently flooded during drought periods

Wetland contains an outlet, but no inlet

Shallow water table and the site is saturated to the surface

X

Other: Seeps are present at the wetland edge

**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)

| Criteria                          | Duration of saturation at AA Wetlands <b>FROM GROUNDWATER DISCHARGE OR WITH WATER THAT IS RECHARGING THE GROUNDWATER SYSTEM</b> |     |     |      |
|-----------------------------------|---|-----|-----|------|
|                                   | P/P   | S/I | T   | None |
| Groundwater Discharge or Recharge | 1H  | .7M | .4M | .1L  |
| Insufficient Data/Information     | N/A   |     |     |      |

Comments: Majority of site hydrology is supplied from surface water and water retention by cribs, but seeps occur north and south of the creek.

14K. Uniqueness:

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

| Replacement potential              | AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland <b>or</b> plant association listed as "S1" by the MTNHP |        |          | AA does not contain previously cited rare types <b>and</b> structural diversity (#13) is high <b>or</b> contains plant association listed as "S2" by the MTNHP |        |          | AA does not contain previously cited rare types or associations <b>and</b> structural diversity (#13) is low-moderate |        |          |
|------------------------------------|--|--------|----------|--|--------|----------|---|--------|----------|
| 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    | .1L      |

Comments: Wetland types are common in this watershed. Scrub shrub habitat cannot be demonstrated in a data point as the shrub/sapling stratum is <30% in all areas of the site. However, the woody habitat provides structural diversity and important habitat for wildlife. Therefore, a PSS component is included in the assessment.

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)   X   (if 'Yes' continue with the evaluation; if 'No' then mark   NA   and proceed to the overall summary and rating page)

ii. Check categories that apply to the AA:   X   Educational/scientific study;        Consumptive rec.;   X   Non-consumptive rec.;        Other :

iii. 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: Site has the potential for educational use.

| General Site Notes  |
|---|
| Wetland acreage at the mitigation site increased 0.04-acres in the 2023 monitoring event. |

**FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #(S): AA-1**

| Function & Value Variables                       | Rating | Actual Functional Points | Possible Functional Points | Functional Units: (Actual Points x Wetland Acreage) | Indicate the four most prominent functions with an asterisk (*) |
|--|--------|--------------------------|----------------------------|---|---|
| A. Listed/Proposed T&E Species Habitat           | M      | 0.80                     | 1                          | 2.81  |   |
| B. MT Natural Heritage Program Species Habitat   | L      | 0.10                     | 1                          | 0.35  |   |
| C. General Wildlife Habitat                      | H      | 0.90                     | 1                          | 3.16  | *   |
| D. General Fish Habitat                          | L      | 0.30                     | 1                          | 1.05  |   |
| E. Flood Attenuation                             | M      | 0.60                     | 1                          | 2.11  |   |
| F. Short and Long Term Surface Water Storage     | H      | 0.80                     | 1                          | 2.81  |   |
| G. Sediment/Nutrient/Toxicant Removal            | H      | 1.00                     | 1                          | 3.51  | *   |
| H. Sediment/Shoreline Stabilization              | H      | 1.00                     | 1                          | 3.51  | *   |
| I. Production Export/Food Chain Support          | H      | 0.80                     | 1                          | 2.81  |   |
| J. Groundwater Discharge/Recharge                | H      | 1.00                     | 1                          | 3.51  | *   |
| K. Uniqueness                                    | M      | 0.40                     | 1                          | 1.40  |   |
| L. Recreation/Education Potential (bonus points) | H      | 0.15                     | 1                          | 0.53  |   |
| Totals:  |        | 7.85                     | 11.00                      | 27.56   |   |
| Percent of Possible Score                        |        |                          | 71%                        |   |   |

**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: II**

**Summary Comments:** The US 93 N Peterson MDT Wetland Mitigation Site rates as a Category II wetland.

**Table B-1.** US93 N Peterson Mitigation Site. Comprehensive Vegetation Species List 2008-2023

| Scientific Name                  | Common Name                 | WMVC Wetland Indicator <sup>(a)</sup> |
|----------------------------------|-----------------------------|---------------------------------------|
| <i>Achillea millefolium</i>      | Common Yarrow               | FACU                                  |
| <i>Agropyron cristatum</i>       | Crested Wheatgrass          | UPL                                   |
| <i>Alnus incana</i>              | Speckled Alder              | FACW                                  |
| <i>Amsinckia menziesii</i>       | Small-flower Fiddle-neck    | UPL                                   |
| <i>Asparagus officinalis</i>     | Asparagus                   | FACU                                  |
| <i>Bistorta bistortoides</i>     | American Bistort            | FACW                                  |
| <i>Brassica juncea</i>           | Chinese Mustard             | UPL                                   |
| <i>Bromus arvensis</i>           | Field Brome                 | UPL                                   |
| <i>Bromus inermis</i>            | Smooth Brome                | UPL                                   |
| <i>Bromus tectorum</i>           | Cheatgrass                  | UPL                                   |
| <i>Cardaria draba</i>            | Whitetop                    | UPL                                   |
| <i>Carex aquatilis</i>           | Leafy Tussock Sedge         | OBL                                   |
| <i>Carex nebrascensis</i>        | Nebraska Sedge              | OBL                                   |
| <i>Carex pachystachya</i>        | Thick-Head Sedge            | FAC                                   |
| <i>Carex pellita</i>             | Woolly Sedge                | OBL                                   |
| <i>Carex praegracilis</i>        | Clustered Field Sedge       | FACW                                  |
| <i>Carex</i> sp.                 | Sedge                       | N/A                                   |
| <i>Carex stipata</i>             | Stalk-Grain Sedge           | OBL                                   |
| <i>Carex utriculata</i>          | Northwest Territory Sedge   | OBL                                   |
| <i>Carex vesicaria</i>           | Lesser Bladder Sedge        | OBL                                   |
| <i>Cirsium arvense</i>           | Canadian Thistle            | FAC                                   |
| <i>Cirsium vulgare</i>           | Bull Thistle                | FACU                                  |
| <i>Cornus alba</i>               | Red Osier                   | FACW                                  |
| <i>Cynoglossum officinale</i>    | Gypsy-Flower                | FACU                                  |
| <i>Dactylis glomerata</i>        | Orchard Grass               | FACU                                  |
| <i>Descurainia sophia</i>        | Herb Sophia                 | UPL                                   |
| <i>Dianthus</i> sp.              | Pink                        | N/A                                   |
| <i>Dipsacus fullonum</i>         | Fuller's Teasel             | FAC                                   |
| <i>Eleocharis palustris</i>      | Common Spike-Rush           | OBL                                   |
| <i>Elodea</i> sp.                | Waterweed                   | N/A                                   |
| <i>Elymus repens</i>             | Creeping Wild Rye           | FAC                                   |
| <i>Epilobium ciliatum</i>        | Fringed Willowherb          | FACW                                  |
| <b><i>Erodium cicutarium</i></b> | <b>Redstem Stork's Bill</b> | <b>UPL</b>                            |
| <i>Festuca arundinacea</i>       | Tall fescue                 | UPL                                   |
| <i>Festuca</i> sp.               | Fescue                      | N/A                                   |
| <i>Gallium aparine</i>           | Sticky-Willy                | FACU                                  |
| <i>Geum macrophyllum</i>         | Large-Leaf Avens            | FAC                                   |
| <i>Glyceria grandis</i>          | American Manna Grass        | OBL                                   |
| <i>Helianthus pauciflorus</i>    | Stiff Sunflower             | UPL                                   |
| <i>Hordeum jubatum</i>           | Fox-Tail Barley             | FAC                                   |



**Table B-1.** US93 N Peterson Mitigation Site. Comprehensive Vegetation Species List 2008-2023

| Scientific Name                   | Common Name                 | WMVC Wetland Indicator <sup>(a)</sup> |
|-----------------------------------|-----------------------------|---------------------------------------|
| <i>Impatiens ecalcarata</i>       | Spurless Touch-Me-Not       | FACW                                  |
| <i>Iris pseudacorus</i>           | Pale-Yellow Iris            | OBL                                   |
| <i>Juncus balticus</i>            | Baltic Rush                 | FACW                                  |
| <b><i>Juncus effusus</i></b>      | <b>Common rush</b>          | <b>FACW</b>                           |
| <i>Juncus ensifolius</i>          | Dagger-Leaf Rush            | FACW                                  |
| <i>Juncus</i> sp.                 | Rush                        | N/A                                   |
| <i>Juncus tenuis</i>              | Lesser Poverty Rush         | FAC                                   |
| <i>Kochia scoparia</i>            | Mexican Kochia              | FAC                                   |
| <i>Lactuca serriola</i>           | Prickly Lettuce             | FACU                                  |
| <i>Lemna minor</i>                | Common Duckweed             | OBL                                   |
| <i>Lepidium campestre</i>         | Field Pepper-grass          | UPL                                   |
| <i>Lepidium perfoliatum</i>       | Clasping Pepperwort         | FACU                                  |
| <i>Leucanthemum vulgare</i>       | Ox-Eye Daisy                | FACU                                  |
| <i>Malva neglecta</i>             | Dwarf Cheeseweed            | UPL                                   |
| <i>Medicago sativa</i>            | Alfalfa                     | UPL                                   |
| <i>Melilotus officinalis</i>      | Yellow Sweet-Clover         | FACU                                  |
| <i>Mentha arvensis</i>            | American Wild Mint          | FACW                                  |
| <i>Myosotis laxa</i>              | Bay Forget-Me-Not           | OBL                                   |
| <i>Myriophyllum sibiricum</i>     | Siberian Water-Milfoil      | OBL                                   |
| <i>Nasturtium microphyllum</i>    | One-Row Watercress          | OBL                                   |
| <i>Nasturtium officinale</i>      | Watercress                  | OBL                                   |
| <i>Nepeta cataria</i>             | Catnip                      | FACU                                  |
| <i>Oenanthe</i> sp.               | Waterdropwort               | N/A                                   |
| <i>Pascopyrum smithii</i>         | Western-Wheat Grass         | FACU                                  |
| <i>Persicaria amphibia</i>        | Water Smartweed             | OBL                                   |
| <i>Persicaria lapathifolia</i>    | Dock-Leaf Smartweed         | FACW                                  |
| <b><i>Persicaria maculosa</i></b> | <b>Spotted Lady's Thumb</b> | <b>FACW</b>                           |
| <i>Phalaris arundinacea</i>       | Reed Canary Grass           | FACW                                  |
| <i>Plantago lanceolata</i>        | English Plantain            | FACU                                  |
| <i>Poa palustris</i>              | Fowl Blue Grass             | FAC                                   |
| <i>Poa pratensis</i>              | Kentucky Blue Grass         | FAC                                   |
| <i>Poa</i> sp.                    | Bluegrass                   | N/A                                   |
| <i>Potentilla recta</i>           | Sulphur Cinquefoil          | UPL                                   |
| <i>Potentilla</i> sp.             | Cinquefoil                  | N/A                                   |
| <i>Prunella vulgaris</i>          | Common Selfheal             | FACU                                  |
| <i>Rosa woodsii</i>               | Woods' Rose                 | FACU                                  |
| <i>Rumex crispus</i>              | Curly Dock                  | FAC                                   |
| <i>Salix bebbiana</i>             | Gray Willow                 | FACW                                  |
| <i>Salix drummondiana</i>         | Drummond's Willow           | FACW                                  |

**Table B-1.** US93 N Peterson Mitigation Site. Comprehensive Vegetation Species List 2008-2023

| Scientific Name                | Common Name            | WMVC Wetland Indicator <sup>(a)</sup> |
|--------------------------------|------------------------|---------------------------------------|
| <i>Salix exigua</i>            | Narrowleaf Willow      | FACW                                  |
| <i>Salix</i> sp.               | Willow                 | N/A                                   |
| <i>Schedonorus pratensis</i>   | Meadow False Fye Grass | FACU                                  |
| <i>Schoenoplectus acutus</i>   | Hard-Stem Club-Rush    | OBL                                   |
| <i>Scirpus microcarpus</i>     | Red-Tinge Bulrush      | OBL                                   |
| <i>Silene latifolia</i>        | Bladder Champion       | UPL                                   |
| <i>Sisymbrium altissimum</i>   | Tall Hedge-Mustard     | FACU                                  |
| <i>Solanum dulcamara</i>       | Climbing Nightshade    | FAC                                   |
| <i>Sonchus arvensis</i>        | Field Sow-Thistle      | FACU                                  |
| <i>Suaeda calceoliformis</i>   | Paiuteweed             | FACW                                  |
| <i>Symphoricarpos albus</i>    | Common Snowberry       | FACU                                  |
| <i>Thlaspi arvense</i>         | Field Pennycress       | UPL                                   |
| <i>Tragopogon dubius</i>       | Meadow Goat's-beard    | UPL                                   |
| <b><i>Trifolium aureum</i></b> | <b>Golden clover</b>   | <b>UPL</b>                            |
| <i>Trifolium pratense</i>      | Red Clover             | FACU                                  |
| <i>Trifolium</i> sp.           | Clover                 | N/A                                   |
| <i>Typha latifolia</i>         | Broad-Leaf Cat-Tail    | OBL                                   |
| <i>Ventenata dubia</i>         | Ventenata              | UPL                                   |
| <i>Verbascum blattaria</i>     | White Moth Mullein     | UPL                                   |
| <i>Verbascum thapsus</i>       | Great Mullein          | FACU                                  |
| <i>Veronica</i> sp.            | Speedwell              | N/A                                   |

<sup>(a)</sup> 2020 NWPL (USACE 2020)

Species observed for the first time in 2023 are **bolded**.

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## APPENDIX C

# PROJECT AREA PHOTOGRAPHS

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MDT Wetland Mitigation Monitoring  
US 93 Peterson  
Lake County, Montana

## US93 Peterson: Photo Point Photographs



**Photo Point: 1**  
**Bearing: 135 degrees**

**Location: PP1**  
**Year: 2017**



**Photo Point: 1**  
**Bearing: 135 degrees**

**Location: PP1**  
**Year: 2023**



**Photo Point: 2**  
**Bearing: 35 degrees**

**Location: PP2 photo 1**  
**Year: 2017**



**Photo Point: 2**  
**Bearing: 35 degrees**

**Location: PP2 photo 1**  
**Year: 2023**



**Photo Point: 2**  
**Bearing: 110 degrees**

**Location: PP2 photo 2**  
**Year: 2017**



**Photo Point: 2**  
**Bearing: 110 degrees**

**Location: PP2 photo 2**  
**Year: 2023**



## US93 Peterson: Photo Point Photographs



**Photo Point: 4**  
**Bearing: 30 degrees**

**Location: Looking across T-2**  
**Year: 2017**



**Photo Point: 4**  
**Bearing: 30 degrees**

**Location: Looking across T-2**  
**Year: 2023**



**Photo Point: 5**  
**Bearing: 175 degrees**

**Location: Wetland boundary**  
**Year: 2017**



**Photo Point: 5**  
**Bearing: 175 degrees**

**Location: Wetland boundary**  
**Year: 2023**



**Photo Point: 6**  
**Bearing: 315 degrees**

**Location: Transect 2 Start**  
**Year: 2017**



**Photo Point: 6**  
**Bearing: 315 degrees**

**Location: Transect 2 Start**  
**Year: 2023**



## US93 Peterson: Photo Point Photographs



**Photo Point: 7**  
**Bearing: 5 degrees**

**Location: PP7 photo 1**  
**Year: 2020**



**Photo Point: 7**  
**Bearing: 5 degrees**

**Location: PP7 photo 1**  
**Year: 2023**



**Photo Point: 7**  
**Bearing: 267 degrees**

**Location: PP7 photo 2**  
**Year: 2020**



**Photo Point: 7**  
**Bearing: 267 degrees**

**Location: PP7 photo 2**  
**Year: 2023**



**Photo Point: 8**  
**Bearing: 34 degrees**

**Location: New crib structure.**  
**Year: 2020**



**Photo Point: 8**  
**Bearing: 34 degrees**

**Location: New crib structure.**  
**Year: 2023**



## US93 Peterson: Transect Photographs



**Photo Point: T-1 Start**  
**Bearing: 215 degrees**

**Location: T-1 Start**  
**Year: 2017**



**Photo Point: T-1 Start**  
**Bearing: 215 degrees**

**Location: T-1 Start**  
**Year: 2023**



**Photo Point 3 (T-1 End)**  
**Bearing: 45 degrees**

**Location: T-1 End**  
**Year: 2017**



**Photo Point 3 (T-1 End)**  
**Bearing: 45 degrees**

**Location: T-1 End**  
**Year: 2023**



**Photo Point: T-2 Start**  
**Bearing: 135**

**Location: T-2 Start**  
**Year: 2020**



**Photo Point: T-2 Start**  
**Bearing: 135**

**Location: T-2 Start**  
**Year: 2023**





**Photo Point: T-2 End**  
**Bearing: 315 degrees**

**Location: T-2 End**  
**Year: 2020**



**Photo Point: T-2 End**  
**Bearing: 315 degrees**

**Location: T-2 End**  
**Year: 2023**



## US93 Peterson: Data Point Photographs



**Data Point:** DP01w  
**Year:** 2023



**Data Point:** DP01u  
**Year:** 2023



**Data Point:** DP02w  
**Year:** 2023



**Data Point:** DP02u  
**Year:** 2023



**Data Point:** DP03w  
**Year:** 2023



**Data Point:** DP03u  
**Year:** 2023





**Data Point:** DP04w

**Year:** 2023



**Data Point:** DP04u

**Year:** 2023



**Data Point:** DP05w

**Year:** 2023



**Data Point:** DP05u

**Year:** 2023



## US93 Peterson: Additional Site Photographs



**Additional Photo 1.** View of downstream log crib structure facing north across the channel.



**Additional Photo 2.** View of middle log crib structure facing north/northeast across the channel.



**Additional Photo 3.** View of upstream log crib structure facing northeast across the channel.



**Additional Photo 4.** Example photo of water level at log crib structure in the central portion of the project site.