Montana Department of Transportation Wetland Mitigation Monitoring Report

KINDSFATER MITIGATION SITE

Project Overview

MDT Project Number: STPX 56 (56) UPN # 5034

Watershed: Watershed #13 – Upper Yellowstone River Basin

Monitoring Year: 2023

Years Monitored: 11th year of monitoring

Corps Permit Number: NWO-2007-00824-MTB

Monitoring Conducted By: Confluence Consulting Inc Dates Monitoring Was Conducted: June 7-8, 2023

Purpose of the Approved Project:

The site is intended to provide 32.7 acres of wetland mitigation credits to assist the Montana Department of Transportation (MDT) in meeting compensatory mitigation requirements for proposed construction projects in Watershed #13 – Upper Yellowstone. The objectives of this project include the creation, restoration, enhancement, and preservation of wetland habitat within the historic Kindsfater gravel pit. Construction included excavating 14 wetland cells to shallow groundwater elevation that range in size from 0.24 to 1.39 acres.

Site Location:

Latitude: 45.693478 Longitude: -108.693517 County: Yellowstone Nearest Town: Laurel, MT

Map Included: See Figure 2, page 12

Mitigation Site Construction Started: 2012 Construction Ended: 2012

Dates of Any Recent Corrective or Maintenance Activities (since previous report):

Activity: N/A

Specific recommendations for additional corrective actions: Continue to implement noxious weed-control measures in 2024. Repair the damaged fence on the southwest boundary of the mitigation site.

Anticipated Wetland Credit Acres: 32.7

Wetland Credit Acres Generated to Date: 23.7

Previous Monitoring Reports: https://www.mdt.mt.gov/publications/brochures/wetland-mitigation.aspx

Monitoring Period: 5 years from construction completion or until concurrence by the US Army Corps of Engineers (USACE).

<u>Requirements</u> (from approved mitigation plan, banking instrument, and US Army Corps of Engineers (USACE) permit conditions)

Performance Standards: A summary of performance standards established for the Kindsfater site and a discussion of achievement status for each criterion are provided in Table 1. In 2023, the site achieved 13 of the 14 success criteria.

Table 1. Summary of Performance Standards.

Performance Standards	Success Criteria	Criteria Achieved Y/N	Discussion
Wetland Characteristics	The three parameter criteria for hydrology, vegetation, and soils are met as outlined in the 1987 Wetland Manual and 2010 Regional Supplement.	Y	Areas identified as wetland habitat within the mitigation site meet the three-parameter criteria, as documented in the USACE wetland determination data forms (Appendix B).
Wetland Hydrology	Soil saturation present for at least 12.5 percent of the growing season.	Y	Areas identified as wetland habitat within the mitigation site exhibit soil saturation for a minimum 12.5 percent of the growing season, as documented by areas of inundation shown in aerial imagery, as well as in the USACE wetland determination data forms (Appendix A and B). Water depths ranged from 1 to 38 inches deep.
	Hydric soil conditions present or appear to be forming.	Y	The constructed wetland complex exhibits hydric soil development. In 2023, five different hydric soil indicators were observed in wetlands across the site.
Hydric Soil	Soil is sufficiently stable to prevent erosion.	Υ	Disturbed soil is stable and does not exhibit signs of erosion.
	Soil is able to support plant cover.	Y	Plant cover has continued to develop and expand across disturbed soils.
	Achieved when hydrophytic vegetation is dominant, per technical guidelines outlined in the 1987 Wetland Manual and 2010 Regional Supplement.	Y	Areas identified as wetland habitat within the mitigation site support a prevalence of hydrophytic vegetation (OBL, FACW, and FAC) as documented in the USACE wetland determination data forms (Appendix B).
Hydrophytic Vegetation	Noxious weeds do not exceed 5 percent cover.	Y	Although several noxious weed infestations have been mapped across the site, these infestations are generally located outside of excavated wetlands. Overall, the estimated noxious weed cover within delineated wetlands is less than 5 percent.
	Hydrophytic vegetation success will include achieving a minimum overall vegetation cover of 80 percent in created wetland areas within 5 years following site construction.	Y	The majority of created wetlands exhibited 80 percent hydrophytic vegetation cover during the 2023 monitoring event. All wetlands that were designed to provide 80 percent vegetative cover are currently achieving this performance standard.

Performance Standards	Success Criteria	Criteria Achieved Y/N	Discussion
Woody Plants	Plantings will be considered successful where they exceed 50 percent survival after 5 years.	N	This performance criterion was not achieved in the specified time period. In 2023, volunteer and planted woody cover was observed in wetland cells 9, 13, and 14. Total aerial cover of woody species within wetlands is approximately 35%.
Open-Water Areas	Open water that is established within the designated wetland cells will be considered successful and creditable.	Y	Areas with less than 5% vegetative cover were mapped as open water (Cell 1, 2, and 3). Shallow ponded water areas, with greater than 5 percent vegetative cover, were also observed on site within many of the other wetland cells as designed.
	Success will be achieved when noxious weeds do not exceed 5 percent cover within the buffer areas on site.	Y	Noxious weed cover was less than 5 percent within upland buffer areas. MDT will continue to implement weed-control measures to maintain this criterion.
Upland Buffer	Any area disturbed within creditable buffer zones must have at least 50 percent aerial cover of non-weed species by the end of the monitoring period.	Y	Upland buffers surrounding wetland areas exhibited greater than 50 percent aerial cover of non-weed species.
Weed Control	Success will be achieved where <5 percent absolute cover of noxious weed species occurs across the site.	Y	The absolute cover of state-listed noxious weed species across the entire site was estimated at less than 5 percent in 2023.
Fencing	Install wildlife-friendly fencing along the easement boundaries.	Υ	Wildlife-friendly fencing around the easement boundaries is in good condition.

Summary Data

Wetland Delineation – The wetland acreage delineated in 2023 decreased 1.02-acres from the previous year, totaling 38.18-acres (including preexisting wetlands; Table 2). The delineation confirmed 19.04 acres in preservation areas, 10.28 acres in the restoration areas (reestablishment (9.24-acres) and rehabilitation (1.04-acres)), 3.04 acres in the enhancement area, and 5.82 acres of created wetland in the excavated cells (Table 2). The wetland boundary expanded in the northwest corner of the site around wetland cell 9, as well as along the boundary where wetlands on the upper and lower terrace connect. However, the wetland boundary receded in some areas of the upper terrace where a hydrophytic vegetation community is no longer present and evidence of hydrology and hydric soil development is lacking.

In 2020, the USACE (N. Green, personal communication, May 6, 2020) provided guidance on open water, defining it as "areas of open water of any depth with less than 5% rooted emergent vegetation, no vegetation, submerged non-rooted vegetation, and/or submerged vegetation rooted in the substrate that does not extend above the water surface." In accordance with this

USACE guidance, open water accounted for 0.74-acre of the mitigation site in 2023 (Table 2). Uplands accounted for the remaining 76.78 acres of the mitigation site. USACE wetland determination data forms (USACE, 2010) are provided in Appendix B.

Table 2. Wetland & Aquatic Habitat Acreage Delineated From 2019 Through 2023 at the Kindsfater Site.

Habitat Type	2019 Acreage	2020 Acreage	2021 Acreage	2022 Acreage	2023 Acreage
Preservation	17.40	18.37	18.85	19.10	19.04
Re-establishment (Restoration)	7.30	7.41	9.30	10.10	9.24
Rehabilitation (Restoration)	1.00	1.12	1.14	1.10	1.04
Enhancement	2.90	2.92	3.04	3.00	3.04
Creation	4.70	4.88	5.25	5.90	5.82
Open Water	N/A	0.40	0.47	0.70	0.74
Total Wetland & Aquatic Habitat	33.30	35.10	38.04	39.90	38.92

Vegetation – A total of 154 plant species were identified on the site from 2013 through 2023, including two new species in 2023. Indian hemp (*Apocynum cannabinum*) was misidentified as Swamp milkweed (*Asclepias incarnata*) in 2022. The correction of this misidentified species is reflected in the comprehensive plant species list for the site (Appendix B, Table B-1). Vegetation communities were identified by species composition and dominance. The dominant Upland Type (UT) at the site is UT 18 (*Bromus tectorum*), which was first documented in 2022 to reflect the proliferation of cheatgrass (*Bromus tectorum*) in the uplands across the site. Some of the upland areas have combined vegetation communities, such as UT 4/18 and 5/19, because a mosaic of two communities exists within an area and could not be individually mapped. The species composition for each community type is provided in detail on the Wetland Mitigation Site Monitoring form (Appendix B), and the community boundaries are shown in Figure A-3 (Appendix A).

The following vegetation community types were identified in 2023:

- Upland Type 4 Elaeagnus angustifolia
- Upland Type 14 Elymus spp./Bromus spp.
- Upland Type 17 Bromus spp./Poa pratensis
- Upland Type 18 Bromus tectorum
- Upland Type 20 Populus deltoides/Elaeagnus angustifolia
- Wetland Type 2 Eleocharis palustris/Schoenoplectus spp.
- Wetland Type 5 Typha latifolia
- Wetland Type 8 Populus deltoides
- Wetland Type 9 Salix exigua
- Wetland Type 11 Phalaris arundinacea
- Wetland Type 16 *Juncus* spp./*Carex* spp.
- Wetland Type 19 Alopecurus arundinaceus

Vegetation cover was measured along three transects in 2023 (Figure A-2, Appendix A). Details of each transect are provided in the Wetland Mitigation Site Monitoring form (Appendix B). Photographs of the transect endpoints are provided in Appendix C. Table 3 summarizes the data for T-1. T-1 extends 300 feet through wetland type (WT) 8 and 9, and UT 14. Total vegetative cover along this transect remains consistent with previous years at 85 percent. The total number of species along the transect remained at 32, but the number of hydrophytic species decreased by one. T-1 extends across cell 14, which was inundated with up to 1.5' of water.

Table 3. Data Summary for T-1 From 2018 Through 2023 at the Kindsfater Site.

Monitoring Year	2018	2019	2020	2021	2022	2023
Transect Length (feet)	300	300	300	300	300	300
Vegetation Community Transitions along Transect	4	4	4	4	3	3
Vegetation Communities along Transect	5	3	3	3	3	3
Hydrophytic Vegetation Communities Along Transect	2	2	2	2	2	2
Total Vegetative Species	35	40	35	34	32	32
Total Hydrophytic Species	12	12	8	8	12	11
Total Upland Species	23	28	27	26	20	21
Estimated % Total Vegetative Cover	85	84	85	85	85	85
Estimated % Unvegetated	15	16	15	15	15	15
% Transect Length Comprising Hydrophytic Vegetation Communities	49	55	53	53	48	48
% Transect Length Comprising Upland Vegetation Communities	51	45	47	47	52	52
% Transect Length Comprising Unvegetated Open Water	0	0	0	0	0	0
% Transect Length Comprising Mudflat	0	0	0	0	0	0

Data collected on T-2 (Wetland Mitigation Site Monitoring form, Appendix B) are summarized in Table 4. T-2 is 388 feet long and intersects WT 5 and 19; 100 percent of the transect crossed wetland habitat in 2023, which has remained static since monitoring began in 2013. Total vegetative cover decreased significantly in 2022 as a result of inundation in cell 8, which shifted the vegetation from WT 2 to WT 5. Total vegetative cover was again estimated at 25% in 2023, and inundation in the cell was up to 2 feet deep. The total number of species observed along the transect decreased by two from the previous year due to declines in upland species. However, the number of hydrophytic species increased by one.

Table 4. Data Summary for T-2 From 2018 Through 2023 at the Kindsfater Site.

Monitoring Year	2018	2019	2020	2021	2022	2023
Transect Length (feet)	388	388	388	388	388	388
Vegetation Community Transitions along Transect	2	2	2	2	2	1
Vegetation Communities along Transect	2	3	2	2	2	2
Hydrophytic Vegetation Communities Along Transect	2	2	1	2	2	2
Total Vegetative Species	26	27	21	21	22	20
Total Hydrophytic Species	20	20	12	12	13	14
Total Upland Species	6	7	9	9	9	6
Estimated % Total Vegetative Cover	75	88	90	92	25	25
Estimated % Unvegetated	25	12	10	8	75	75
% Transect Length Comprising Hydrophytic Vegetation Communities	100	100	100	100	100	100
% Transect Length Comprising Upland Vegetation Communities	0	0	0	0	0	0
% Transect Length Comprising Unvegetated Open Water	0	0	0	0	0	0
% Transect Length Comprising Mudflat	0	0	0	0	0	0

Data collected on T-3 (Wetland Mitigation Site Monitoring form, Appendix B) are summarized in Table 5. T-3 is 292 feet long and intersects WT 5 and WT 19. The transect has been comprised entirely of wetland habitat since 2021. Total vegetative cover along this transect was estimated at 90 percent, consistent with observations in 2022. The total number of species observed along the transect continued to decline and totaled eleven in 2023. This may be attributed to a dominance of rhizomatous nonnative grasses and cattails along the wetland fringe of cell 8.

Table 5. Data Summary for T-3 From 2018 Through 2023 at the Kindsfater Site.

Monitoring Year	2018	2019	2020	2021	2022	2023
Transect Length (feet)	292	292	292	292	292	292
Vegetation Community Transitions along Transect	1	2	2	2	2	2
Vegetation Communities along Transect	2	3	3	2	2	2
Hydrophytic Vegetation Communities Along Transect	1	2	2	2	2	2
Total Vegetative Species	23	24	27	27	17	11
Total Hydrophytic Species	11	15	14	14	6	5
Total Upland Species	12	9	13	13	11	6
Estimated % Total Vegetative Cover	85	88	90	92	90	90
Estimated % Unvegetated	15	12	10	8	10	10
% Transect Length Comprising Hydrophytic Vegetation Communities	91.8	91.8	91.8	100	100	100
% Transect Length Comprising Upland Vegetation Communities	8.2	8.2	8.2	0	0	0
% Transect Length Comprising Unvegetated Open Water	0	0	0	0	0	0
% Transect Length Comprising Mudflat	0	0	0	0	0	0

Montana State-Listed Priority 2B noxious weeds identified within the Kindsfater mitigation site in 2023 included Canada thistle (*Cirsium arvense*), leafy spurge (*Euphorbia esula*), field bindweed (*Convolvulus arvensis*), and isolated occurrences of salt cedar (*Tamarix chinensis*), spotted knapweed (*Centaurea stoebe*) and gypsy-flower (*Cynoglossum officinale*). Infestation areas, with the exception of isolated occurrences, were mapped in 2023 and are shown in Figure A-3 (Appendix A). MDT has an ongoing weed-control program for their mitigation sites that includes an annual assessment of identified weed populations and application of herbicide treatment for the specific weed species and location. As part of that weed control program, weeds were treated within the site in September 2023. The absolute cover of state-listed noxious weed species across the entire site was estimated at less than 5 percent in 2023.

Cuttings and containerized materials were planted in approximately 27 clusters (Figure A-2, Appendix A) around the Kindsfater site following construction completion. The woody planting zones were generally located around the excavated wetland cells. The success criteria of at least fifty percent survival of woody plants after five years was not met during the fifth monitoring event in 2017. Planting clusters were observed in 2023, and the survival rate appeared to be consistent with that reported in 2022. Volunteers of Rocky Mountain juniper (*Juniperus scopulorum*), Woods' rose (*Rosa woodsii*), and silver buffalo-berry (*Shepherdia argentea*) were observed in the mitigation site. Additionally, Eastern cottonwood (*Populus deltoides*), narrow-leaf willow (*Salix exigua*), and yellow willow (*Salix lutea*) in wetland cells 9, 13, and 14 are thriving and expanding. The planted and surviving species are listed on the Wetland Mitigation Site Monitoring form (Appendix B).

Hydrology – The hydrology for the site is supplied from multiple sources, including a shallow seasonal groundwater table, direct precipitation, and surface runoff. During the June 2023 monitoring, all areas defined as wetlands across the site were inundated, saturated, or exhibited signs of periodic saturation within 12 inches of the ground surface. Prior to the monitoring event, the area had received 5.66 inches of rain over a three-day period (June 2-4; NRCS 2023). The resulting surface water retention was observed as higher-than-normal surface water in wetland cells and inundation in some upland areas. Certain upland vegetation communities were observed under water, indicating atypical hydrology during the site visit.

Shallow surface water was documented within all wetland cells and ranged in depth from 1-38 inches. Constructed cells 1-3 were identified as open water areas surrounded by an emergent wetland fringe. Constructed cells 7, 9, 13, and 14 represented isolated wetland depressions surrounded by upland habitat. The remaining constructed cells were situated within a contiguous wetland mosaic with frequent surface drainages between cells as designed for a flow through system to accommodate surface runoff from storm events. Shallow groundwater and storm water runoff flows through the cells that were constructed along the upper terrace, then discharges into the natural slope wetlands to recharge the depressional wetlands along the lower terrace. The reactivated wetland area that connects the upper terrace to the lower terrace was observed with overland flow during the monitoring event. Northwest and immediately upgradient of sampling points DP03u/DP03w, a small channel approximately 12 inches wide with flowing water was observed. The channel is incised approximately 4 inches with a bed of unconsolidated gravels and cobbles, and no wetland fringe. Because this ephemeral channel does not support wetland vegetation or hydric soil development, it was not mapped as wetland in 2023 (Appendix A, Figure A-4).

Long-term groundwater monitoring of four wells conducted by the US Geological Survey (USGS) at the Kindsfater site indicates that groundwater levels steadily declined from 2006 through 2015, potentially a result of prolonged drought conditions in the region and de-watering by the active gravel operation to the north of the site (Figure 1). According to the USGS, groundwater elevations in some areas of the site are also influenced by the active gravel mining operation north of the site and, to a lesser extent, by a large irrigation canal just south of the site (USGS, 2020). Groundwater levels within the site have steadily increased since 2015, which may be a result of higher-than-average precipitation in the region. Monitoring efforts completed

by the USGS in 2023 show groundwater levels have followed a similar pattern across the site and have ranged from a high of roughly 2.2 feet below ground surface (BGS) at well MDT7 to a low of approximately 22 feet BGS at well MDT6 (Figure 1).

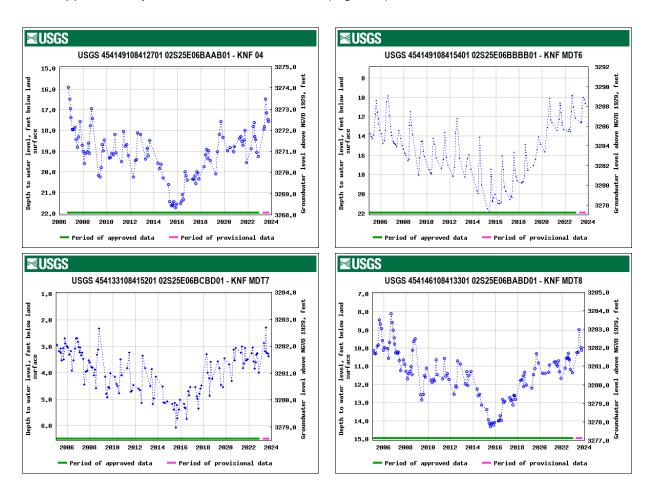


Figure 1. USGS Groundwater Well Data from 2006-2023

Soils – The Yellowstone County Soil Survey (NRCS, 2023) indicates that five soil series were mapped within the monitoring area, including the Bew silty clay loam, Shorey gravelly loam, Wanetta clay loam, Larim gravelly loam, and alluvial land (wet). In the 1970s, much of the site was excavated for gravel and borrow material; consequently, the original soil mapping may not necessarily represent existing conditions at the site. Paired soil pits were excavated at 12 locations (24 pits) across the site (Figure A-2, Appendix A). Many of the soil test pits encountered a barrier of cobbles as shallow as 8" and were not excavated further. Soil textures within wetland test pits ranged from sandy loam to clay. Hydric soil indicators were observed in all wetland test pits. Hydric soil indicators reported at the site in 2023 included depleted matrix, sandy mucky mineral, sandy redox, hydrogen sulfide, and loamy mucky mineral.

Soil textures in upland test pits ranged from loamy sand to clay. Although one upland test pit (DP05u) demonstrated a depleted matrix, the data point and the surrounding area did not support a hydrophytic vegetation community or show evidence of wetland hydrology, despite the recent high precipitation events. Complete field observations for the 24 data points are provided in the wetland determination data forms in Appendix B.

Photographs – Photographs were taken at photo points 1–12 (PP1 to PP12), transect endpoints, and data points and are provided in Appendix C with comparisons between 2023 and the first year of monitoring. Please refer to previous years' monitoring reports for all previous annual photographs (https://www.mdt.mt.gov/publications/brochures/wetland-mitigation.aspx).

Functional Assessment – The 2023 results of the functional assessments are summarized in Table 6. In 2023, the state rank of the plains spadefoot (*Spea bombifons*) was increased to S4 and its species of concern (SOC) status removed. This decision was based on findings of recent nocturnal surveying efforts that indicate the perceived rarity of the species was due to a lack of historical surveying efforts and detection difficulty (MTNHP 2023b). The plains spadefoot has previously been recorded at the Kindsfater site and is believed to persist there. As a result of the increased S4 rating for the species, the score for MTNHP habitat decreased from high (0.9) to low (0). The corresponding decrease in total MWAM points shifted the wetlands from Category III. A completed Montana Wetland Assessment Method (MWAM) form (Berglund and McEldowney, 2008) for the Kindsfater Site is provided in Appendix B. Functional Unit Crediting for the Kindsfater site can be found in Table 8.

Table 6. Montana Wetland Assessment Method Summary for the Kindsfater Site.

Function and Value Parameters From the 2008 Montana Wetland Assessment Method	2023 AA1 (Existing Wetlands)	2023 AA2 (Established (Created) Wetlands)
Listed/Proposed Threatened & Endangered (T&E) Species Habitat	Low (0)	Low (0)
Montana Natural Heritage Program Species (MTNHP) Habitat	Low (0)	Low (0)
General Wildlife Habitat	Mod (0.5)	Mod (0.7)
General Fish/Aquatic Habitat	N/A	N/A
Flood Attenuation	N/A	N/A
Short- and Long-Term, Surface-Water Storage	High (0.9)	Mod (0.6)
Sediment/Nutrient/Toxicant Removal	High (0.9)	High (1.0)
Sediment/Shoreline Stabilization	High (0.9)	Mod (0.7)
Production Export/Food Chain Support	High (0.8)	High (0.8)
Groundwater Discharge/Recharge	Mod (0.7)	Mod (0.7)
Uniqueness	Low (0.3)	Mod (0.5)
Recreation/Education Potential (bonus points)	High (0.2)	High (0.2)
Actual Points/Possible Points	5.1/9	5.2/9
% of Possible Score Achieved	57%	58%
Overall Category	III	III

^{*}AA1 – 'Existing Wetlands' includes Preserved, Restored, and Enhanced Wetland Areas

Wildlife – In 2023, a total of twenty-three bird species were identified at the Kindsfater wetland mitigation site. Chorus frogs were heard in wetlands and tracks, burrows, and scat indicated use by white-tailed deer and other mammals. Six dead common carp were also observed decaying on the banks and fringe of the open water cell in wetland cell 2.

Credit Summary – Table 7 summarizes the estimated wetland credits based on the USACE-approved credit ratios (USACE, 2005) and the wetland delineation that was completed in June 2023. A total of 38.18 acres of wetland habitat were delineated at the Kindsfater site in 2023, including 5.82 acres of creation, 9.24 acres of reestablishment, 1.04 acres of rehabilitation, 3.04 acres of enhancement, and 19.04 acres of wetland preservation. A total of 46.2 acres, including 7.3 acres of upland buffer and 0.74-acre of open water, were used to calculate the mitigation credit acres. After applying the USACE-approved ratios to these values, a total of 23.7 acres of mitigation credits were estimated in 2023, which is 9.0 credit acres below the targeted 32.7 credit acres anticipated at this site. This deficiency in credit generation is primarily due to a lack of wetland development in the re-establishment and rehabilitation areas of the site.

Table 7. Wetland Mitigation Credits Estimated for the Kindsfater Wetland Mitigation Site (2021-2023).

Compensatory Mitigation Type	Mitigation Area Description	Wetland Type (Cowardin)	Anticipated Mitigation Surface Area (acres)	USACE Approved Mitigation Ratios	Anticipated Mitigation Credit (acres)	2021 Delineated Acres ^(c)	2021 Mitigation Credit (acres)	2022 Delineated Acres ^(c)	2022 Mitigation Credit (acres)	2023 Delineated Acres ^(c)	2023 Mitigation Credit (acres)
Creation (Establishment)	Wetland Cells 7, 9, 13 & 14	Lacustrine emergent	4.6	1:1	4.6	5.25	5.25	5.90	5.90	5.82	5.82
Restoration (Re- establishment)	Wetland Cells 1-6 and partial Cell 18	Lacustrine emergent and Palustrine emergent, scrub-shrub	14.0	1:1	14.0	9.30	9.30	10.10	10.10	9.24	9.24
Restoration (Rehabilitation)	Areas adjacent to Wetland Cells 1-12	Palustrine emergent, scrub-shrub	9.2	1.5:1	6.1	1.14	0.76	1.10	0.73	1.04	0.69
Enhancement	Wetland Cells 10-12 & partial Cell 8	Palustrine emergent, scrub-shrub	3.1	3:1	1.0	2.90	1.01	3.00	1.00	3.04	1.01
Preservation	Existing Wetland Areas	Palustrine emergent, scrub-shrub	21.9	4:1	5.5	18.85	4.71	19.10	4.78	19.04	4.76
Upland Buffer	50-foot wide upland perimeter	N/A	7.3	5:1	1.5	7.30	1.46	7.30	1.46	7.30	1.46
Open Water	Wetland Cells 1, 2, & 3	Palustrine emergent	TBD	1:1	TBD	0.5	0.47	0.70	0.70	0.74	0.74
(a) ECDC 2012		Totals	60.1		32.7	45.34	22.96	47.20	24.67	46.22	23.73

⁽a) FGDC 2013.

⁽b) Mitigation crediting for Open Water was approved by the USACE in permit # NWO-2007-00824-MTB for this project.

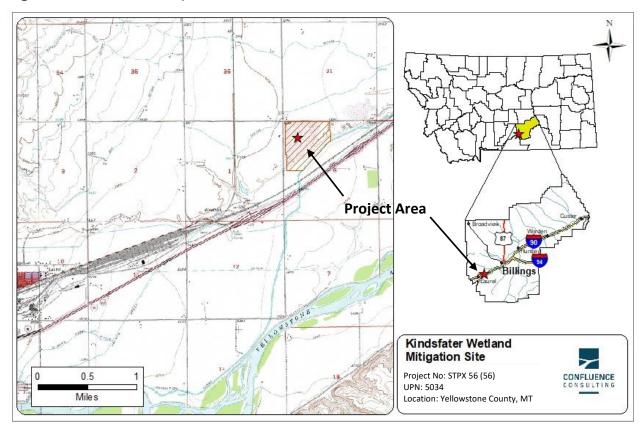
<u>Functional Unit Credits Summary –</u> The 2023 functional units summary is summarized in Table 8. A total of 111.90 functional units were generated at the Kindsfater site after applying the appropriate mitigation ratios to the 2023 wetland acreage and multiplying that value by the points generated from each assessment area.

Table 8. Functional Units Credit Summary for the Kindsfater Site.

Mitigation Type	2023 Delineated Acreage	Ratio	2023 Mitigation Credit Acres	MWAM Actual Points	Functional Units
Creation (Establishment)	5.82	1:1	5.82	5.20	30.26
Restoration (Reestablishment)	9.24	1:1	9.24	5.20	48.05
Restoration (Rehabilitation)	1.04	1.5:1	0.69	5.20	3.59
Enhancement	3.04	3:1	1.01	5.20	5.25
Preservation	19.04	4:1	4.76	5.20	24.75
Functional Units (Mitigation Credit Acres × Actual Points)					111.90

Maps, Plans, Photos

Figure 2. Site Location Map



Project Area Maps/Figures: See Appendix A (Figure A-2 – 2023 Monitoring Activity Locations;

Figure A-3 – 2023 Mapped Site Features; and Figure A-4 – 2023 Wetland Delineation)

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

Plant List: See Table B-1 in Appendix B

Photos: See Appendix C

Plans: See Appendix D of 2018 Kindsfater Monitoring Report located at this website:

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

Conclusions

Based on the results of the eleventh year of monitoring, the Kindsfater mitigation site continues to develop into a diverse wetland ecosystem. The site has met all but one of the project's performance standards since 2019. The performance standard for woody planting survival will not be achieved in the future as it is a time-constrained success criteria. However, cover provided by volunteer willows (*Salix* spp.) and Eastern cottonwood, particularly in wetland cells 9, 13, and 14, provide a structural diversity and constitute scrub-shrub habitat.

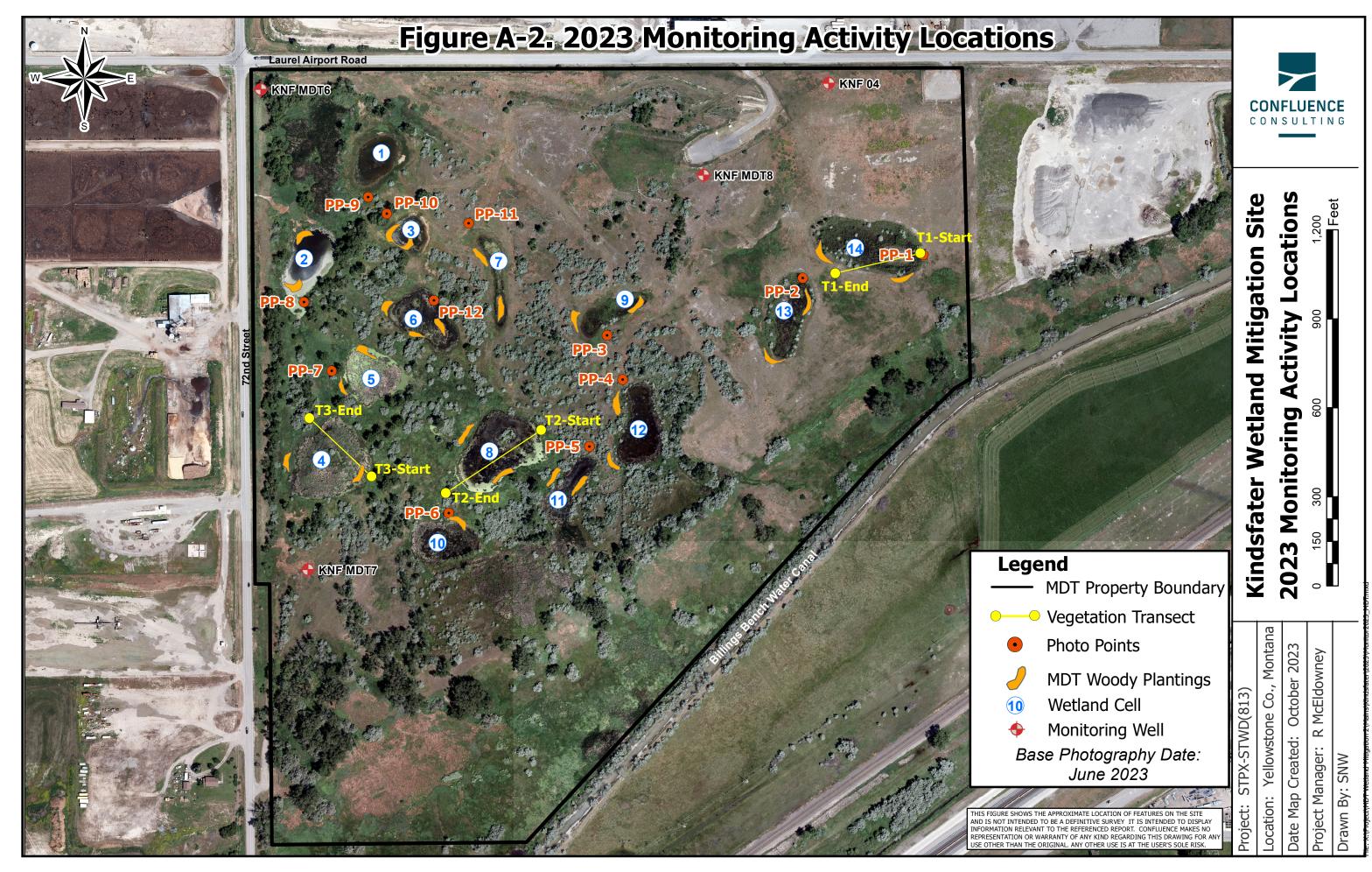
References

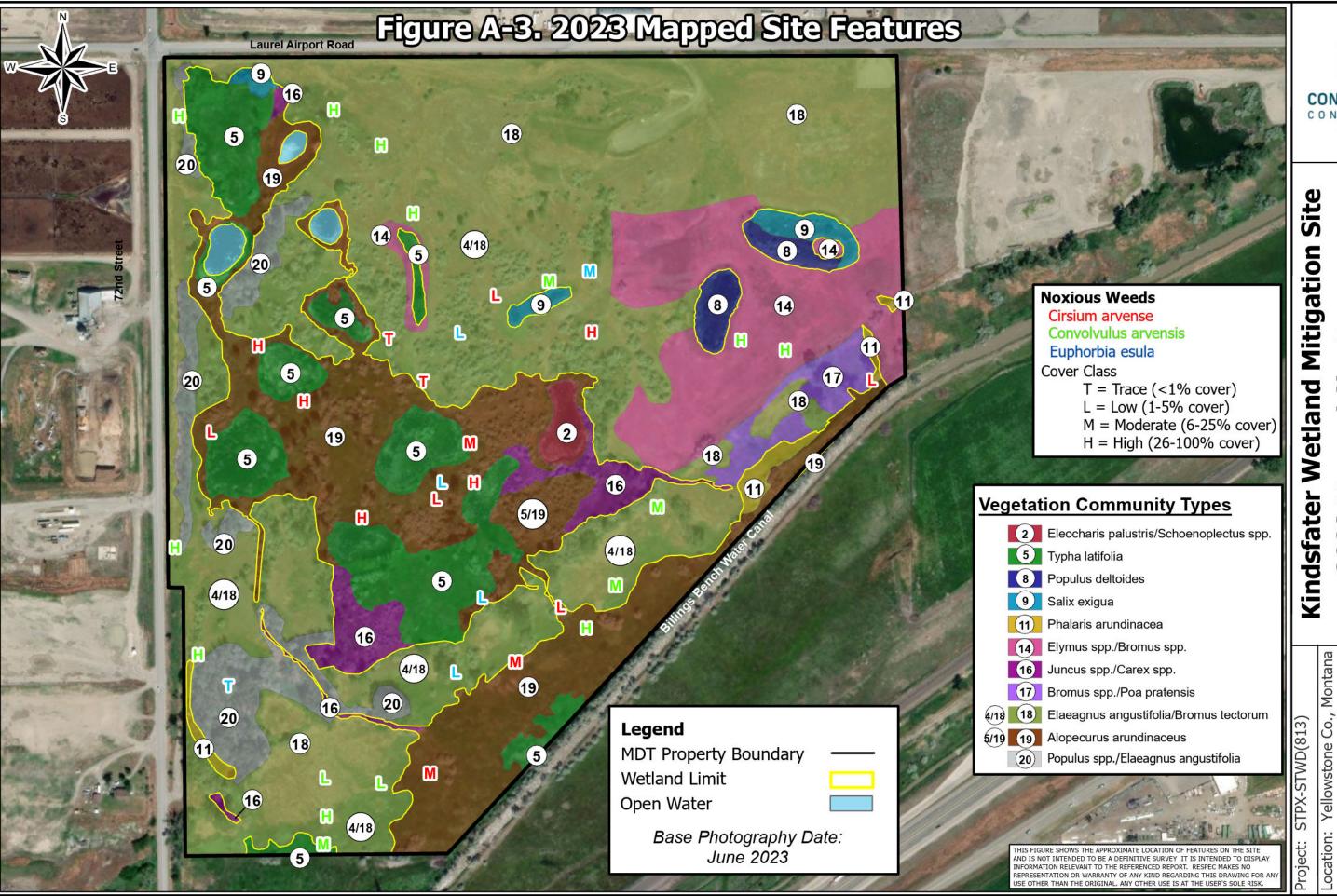
- Berglund, J. and R. McEldowney. 2008. *MDT Montana Wetland Assessment Method*, PBS&J Project B43072.00, prepared by Post, Buckley, Schuh, & Jernigan, Helena, MT, for the Montana Department of Transportation, Helena, MT.
- Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. US Army Corps of Engineers. Washington, DC.
- Federal Geographic Data Committee (FGDC). 2013. Classification of wetlands and deepwater habitats of the United States. FGDC-STD-004-2013. Second Edition. Wetlands Subcommittee, Federal Geographic Data Committee and US Fish and Wildlife Service, Washington, DC.
- Lesica, P. 2012. Manual of Montana Vascular Plants, Brit Press, Fort Worth, TX.
- Montana Natural Heritage Program (MTNHP). 2023a. *Montana Species of Concern Report*. Montana Natural Heritage Program. Accessed on November 13, 2023 at http://mtnhp.org/SpeciesOfConcern/?AorP=p
- Montana Natural Heritage Program (MTNHP). 2023b. Montana Field Guide. Plains Spadefoot *Spea bombifrons*. Montana Field Guide. Retrieved on November 13, 2023, from https://FieldGuide.mt.gov/speciesDetail.aspx?elcode=AAABF02010
- Natural Resources Conservation Service (NRCS). 2023. Soil Survey (SSURGO) Database for [Yellowstone County Area, Montana]. Accessed on November 14, 2023 at http://websoilsurvey.nrcs.usda.gov/
- Natural Resources Conservation Service (NRCS). 2018. Field Indicators of Hydric Soils in the United States, Version 8.2. L.M. Vasilas, G.W. Hurt, and J.F. Berkowitz (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils. 55 p.
- Natural Resources Conservation Service (NRCS). 2023. WETS Station: Billings 4.2 WSW. Accessed on November 14, 2023 at http://agacis.rcc-acis.org/?fips=30111
- US Army Corps of Engineers (USACE). 2005. *Montana Mitigation Information*. Accessed on October 10 2016 at http://www.nwo.usace.army.mil/Missions/Regulatory-Program/Montana/Mitigation/
- US Army Corps of Engineers (USACE). 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (Version 2.0), prepared by US Army Corps of Engineers, US Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS.
- US Army Corps of Engineers (USACE). 2020. *National Wetland Plant List (Version 3.5)*, prepared by US Army Corps of Engineers, US Army Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory, Hanover, NH.
- US Fish and Wildlife Service (USFWS). 2023. *IPaC Resource List.* Environmental Conservation Online System (ECOS). Accessed on October 13, 2023 at *https://ecos.fws.gov/ipac/*
- US Geological Survey (USGS). 2023. *National Water Information System, USGS Water Resources, Groundwater Levels for USA: Water Levels.* Yellowstone County, Montana. Accessed on November 14, 2023 at https://nwis.waterdata.usgs.gov/nwis/gwlevels/

US Geological Survey (USGS). 2020. Annual Summary of Data Collected at Mitigation Areas, April – September 2020. Prepared for Montana Department of Transportation by Sean Lawlor and August Schultz, U.S. Geological Survey, Wyoming-Montana Water Science Center, October 22, 2020

APPENDIX A PROJECT AREA MAPS

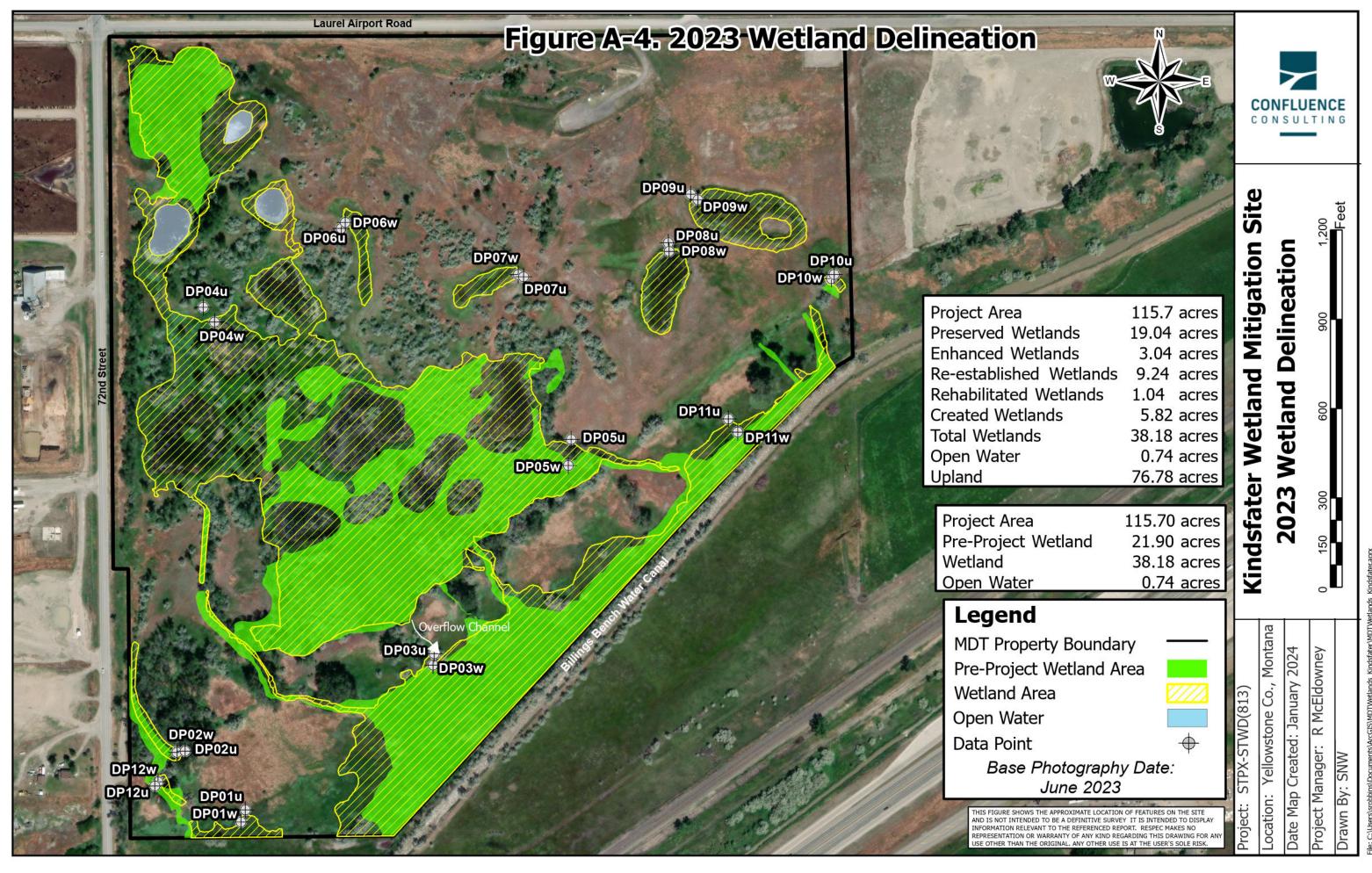
MDT Wetland Mitigation Monitoring Kindsfater Yellowstone County, Montana





Site Features

Mapped 2023



APPENDIX B MONITORING FORMS

MDT Wetland Mitigation Monitoring Kindsfater Yellowstone County, Montana

MDT WETLAND MITIGATION SITE MONITORING FORM

Project Site: <u>K</u>	indstaterAssessment Date/Time	6/6/202
Person(s) cond	lucting the assessment: J Trilling, S Weyant, K Kane	
Weather: <u>95 de</u>	egrees, sunny Location: Laurel, MT	
MDT District: E	BillingsMilepost: NA	
Legal Descripti	on: T <u>2S</u> R <u>25E</u> Section(s) 6	
Initial Evaluatio	n Date <u>: 8/22/2013</u> Monitoring Year: <u>10</u> #Visits in Year: <u>1</u>	
Size of Evaluat	ion Area: <u>115.69 (acres)</u>	
	unding wetland:	
Commercial a the NW.	nd agriculture including a gravel mining operation to the north and hay fields	s to
	HYDROLOGY	
Surface Water Sou	rce: Groundwater, precipitation	
Inundation: 🔽	Average Depth: 1.5 (ft) Range of Depths: 0-5 (ft)	
Percent of assessm	nent area under inundation: <u>20 %</u>	
Depth at emergent	vegetation-open water boundary:0.5 (ft)	
If assessment area	is not inundated then are the soils saturated within 12 inches of surface: Ye	es_
Other evidence of h	nydrology on the site (ex. – drift lines, erosion, stained vegetation, etc <u>:</u>	
	on aerial imagery, saturation to surface, shallow ponded water/recent pondir land cells, sulfidic odor, water marks, aquatic fauna, geomorphic position, ar	_
Groundwater M	Ionitoring Wells	
Record depth of	water surface below ground surface, in feet.	
Well ID	Water Surface Depth (ft)	
KNF 04	17.2	
KNF MDT 8	9.96	
KNF MDT6	10	
KNF MDT7	3.23	
Hydrology Notes:		
	ral wells within this site that are monitored by the USGS and are included on Below Land Surface (BLS) and measurements were taken by the USGS on	
7/27/2023.	, , , , , , , , , , , , , , , , , , , ,	

VEGETATION COMMUNITIES

Site Kindsfater

(Cover Class Codes $\mathbf{0} = < 1\%$, $\mathbf{1} = 1-5\%$, $\mathbf{2} = 6-10\%$, $\mathbf{3} = 11-20\%$, $\mathbf{4} = 21-50\%$, $\mathbf{5} = >50\%$)

Community # 2 Community Type: Eleocharis palustris / Schoenoplectus spp. Acres: 0.72

Species	Cover class	Species	Cover class
Alopecurus arundinaceus	1	Bare Ground	2
Carex pellita	2	Eleocharis palustris	4
luncus balticus	1	Juncus compressus	1
Open Water	4	Phalaris arundinacea	2
opulus deltoides	1	Salix exigua	2
alix lutea	1	Schoenoplectus pungens	3
cirpus microcarpus	1	Typha latifolia	1
eronica anagallis-aquatica	1		

Comments:

PEM wetland community. This WT persists in one location (Wetland Cell 12) in the center of the site.

Community # 4 Community Type: Elaeagnus angustifolia / Acres:

Species	Cover class	Species	Cover class
Asclepias speciosa	0	Bromus inermis	1
Bromus tectorum	2	Carex praegracilis	0
Convolvulus arvensis	0	Elaeagnus angustifolia	5
Elaeagnus commutata	1	Elymus repens	1
Elymus trachycaulus	1	Euphorbia esula	0
Poa pratensis	1	Populus balsamifera	1
Populus deltoides	2		

Comments:

Scrub-shrub and forested community interspersed throughout UT 18. The acreage for UT 4 is not calculated separately from UT 18.

Community # 5 Community Type: Typha latifolia / Acres: 10.86

Species	Cover class	Species	Cover class
Alopecurus arundinaceus	2	Bare Ground	1
Carex nebrascensis	1	Carex pellita	2
Carex utriculata	1	Cirsium arvense	0
Elaeagnus angustifolia	1	Eleocharis palustris	1
Elymus repens	0	Juncus balticus	1
Juncus compressus	2	Lemna minor	0
Marrubium vulgare	1	Open Water	2
Persicaria amphibia	1	Phalaris arundinacea	1
Poa palustris	0	Poa pratensis	0
Polypogon monspeliensis	1	Populus deltoides	1
Salix exigua	1	Salix lutea	1
Schoenoplectus acutus	2	Schoenoplectus pungens	1
Solanum dulcamara	1	Taraxacum officinale	0
Typha latifolia	5	Veronica anagallis-aquatica	0
_			

Comments:

Pre-construction existing wetland community which has expanded from 2018 to 2023. This community is also interspersed across 1.7-acres of WT 19, which is not included in the 10.86 acres area provided above.

Community # 8 Community Type: Populus deltoides / Acres: 1.2

Species	Cover class	Species	Cover class
Asclepias speciosa	0	Bare Ground	2
Bromus inermis	0	Carex nebrascensis	1
Carex praegracilis	1	Cirsium arvense	0
Convolvulus arvensis	1	Elaeagnus angustifolia	1
Eleocharis palustris	2	Elymus repens	1
Elymus trachycaulus	1	Juncus balticus	1
Lactuca serriola	0	Medicago lupulina	0
Poa palustris	1	Polypogon monspeliensis	1
Populus deltoides	4	Salix exigua	3
Salix lutea	1	Schoenoplectus pungens	2
Sonchus arvensis	0	Taraxacum officinale	0

Comments:

PSS wetland type. Natural encroachment of Populus deltoides seedlings and saplings observed in several depressional wetland cells now comprise the dominant vegetation in these areas.

Community # 9 Community Type: Salix exigua / Acres: 1.14

Species	Cover class	Species	Cover class
Bare Ground	1	Bromus inermis	0
Cardaria chalepense	0	Carex praeceptorum	1
Cirsium arvense	0	Eleocharis palustris	1
lymus trachycaulus	1	Epilobium ciliatum	1
uncus balticus	2	Juncus compressus	1
epeta cataria	0	Poa palustris	1
pulus deltoides	2	Salix exigua	5
alix lutea	1	Schoenoplectus acutus	2
choenoplectus pungens	2	Scirpus microcarpus	1
olanum dulcamara	1	Typha latifolia	1

Comments:

WT first documented in 2016. Since 2016, this WT has continued to expand slowly across portions of the depressional wetlands including NW of Cell 1, Cell 9, and Cell 14.

Community # 11 Community Type: Phalaris arundinacea / Acres: 0.85

Species	Cover class	Species	Cover class
Alopecurus arundinaceus	2	Cirsium arvense	0
Elymus repens	2	Juncus balticus	1
Phalaris arundinacea	5	Poa pratensis	1
Taraxacum officinale	0		

Comments:

This WT comprises two pre-existing wetland areas (near the west boundary and the east boundary), as well as portions of created wetlands on the lower terrace (southeast quadrant of the site).

Community # 14 Community Type: Elymus spp. / Bromus spp. Acres: 11

Species	Cover class	Species	Cover class
Agropyron cristatum	1	Alopecurus arundinaceus	0
Alyssum alyssoides	1	Artemisia frigida	1
Bare Ground	1	Bromus inermis	2
Bromus japonicus	2	Bromus tectorum	4
Cirsium arvense	1	Convolvulus arvensis	1
Elaeagnus angustifolia	1	Elymus lanceolatus	1
Elymus repens	4	Elymus trachycaulus	1
Erodium cicutarium	1	Heterotheca villosa	0
Lactuca serriola	0	Marrubium vulgare	0
Medicago lupulina	0	Melilotus officinalis	0
Nassella viridula	1	Pascopyrum smithii	1
Phalaris arundinacea	0	Poa compressa	0
Poa pratensis	1	Salix exigua	0
Schedonorus pratensis	1	Sisymbrium loeselii	1
Sonchus arvensis	0	Sporobolus cryptandrus	0
Thlaspi arvense	1	Tragopogon dubius	1
Verbascum thapsus	0		

Comments:

Much of the area that was classified as UT 14 and UT 4/14 in 2021 was remapped as UT 18 and 4/18 in 2023 due to the prevalence of Bromus tectorum across the site. This UT is primarily present at the eastern portion of the site where Elymus species are still a major component of the dry upland areas.

Community # 16 Community Type: Juncus spp. / Carex spp. Acres: 3.03

Species	Cover class	Species	Cover class
Alopecurus arundinaceus	1	Carex aquatilis	1
Carex aurea	1	Carex nebrascensis	2
Carex pellita	3	Carex utriculata	1
Eleocharis palustris	1	Juncus balticus	3
Juncus compressus	1	Juncus torreyi	1
Lactuca serriola	1	Persicaria amphibia	0
Phalaris arundinacea	2	Typha latifolia	2

Comments:

WT first classified in 2018 where Juncus spp. had replaced small areas of WT 5 and WT 2. In 2019, Carex spp. was added as codominant. This community was largely unchanged from 2022-2023. In general, areas mapped as WT 16 had 1"-2" of standing water.

Community # 17 Community Type: Bromus spp. / Poa pratensis Acres: 1.73

Species	Cover class	Species	Cover class
Alopecurus arundinaceus	1	Bare Ground	1
Bromus inermis	3	Bromus tectorum	3
Cirsium arvense	1	Convolvulus arvensis	1
Elymus repens	1	Elymus trachycaulus	1
Lactuca serriola	1	Pascopyrum smithii	2
Poa compressa	1	Poa pratensis	3

UT 17 was greatly reduced in size in 2022 due to UT 18 replacing a large portion of this UT. In 2023, this community is largely the same as reported in the previous year, but has decreased slightly in acreage.

Community # 18 Community Type: Bromus tectorum / Acres: 14.96

Species	Cover class	Species	Cover class
Agropyron cristatum	2	Alyssum alyssoides	1
Artemisia frigida	0	Bare Ground	2
Bassia scoparia	0	Bromus inermis	2
Bromus japonicus	1	Bromus tectorum	5
Convolvulus arvensis	1	Elaeagnus angustifolia	0
Elymus repens	2	Elymus trachycaulus	1
Erodium cicutarium	0	Juncus balticus	0
Lactuca serriola	0	Nassella viridula	1
Poa pratensis	2	Sisymbrium altissimum	1
Sisymbrium loeselii	0	Sporobolus cryptandrus	1
Thlaspi arvense	0	Tragopogon dubius	0

Comments:

Comments:

This UT, created in 2022, replaced many areas of UT 4/14, 4/15, 15, and 17 due to the increased dominance of Bromus tectorum throughout uplands. The prevalence of Bromus tectorum across the site has greatly increased and is expected to replace more of UT 14 and 17 in the future. The acreage reported for this UT does not include 43.34-acres mapped as UT 4/18.

Community # 19 Community Type: Alopecurus arundinaceus / Acres: 18.68

Species	Cover class	Species	Cover class
Agrostis stolonifera	0	Alopecurus arundinaceus	4
Asclepias speciosa	1	Bare Ground	1
Bromus inermis	1	Bromus tectorum	2
Carex aquatilis	0	Carex nebrascensis	1
Carex pellita	2	Carex praegracilis	1
Carex utriculata	1	Cirsium arvense	1
Conium maculatum	1	Convolvulus arvensis	1
Elaeagnus angustifolia	3	Eleocharis palustris	0
Elymus repens	3	Elymus trachycaulus	1
Juncus balticus	2	Lactuca serriola	0
Lycopus asper	1	Mantha arvensis	0
Pascopyrum smithii	1	Persicaria amphibia	0
Phalaris arundinacea	1	Poa pratensis	0
Poa pratensis	3	Populus deltoides	2
Salix lucida	0	Schedonorus pratensis	1
Schoenoplectus acutus	1	Schoenoplectus pungens	1
Sisymbrium loeselii	0	Sonchus arvensis	1
Taraxacum officinale	0	Thlaspi arvense	1
Tragopogon dubius	0	Typha latifolia	0

Comments:

This WT comprises a majority of the wetland acres between excavated wetland cells, as well as the wet meadow habitat on the lower terrace along the southeast site boundary.

Community # 20 Community Type: Populus spp. / Elaeagnus angustifolia Acres: 5.77

<u> </u>				
Species	Cover class	Species	Cover class	
Asperugo procumbens	0	Bromus inermis	2	
Bromus tectorum	1	Convolvulus arvensis	0	
Dactylis glomerata	1	Elaeagnus angustifolia	4	
Elymus repens	2	Elymus repens	2	
Galium aparine	1	Lactuca serriola	1	
Phalaris arundinacea	1	Poa pratensis	3	
Populus angustifolia	4	Populus deltoides	4	
Rhamnus cathartica	1	Schedonorus pratensis	1	
Thlaspi arvense	1			

Comments:

This UT was created in 2023 to distinguish cottonwood galleries at the site which were previously lumped into UT 4/18.

*Note that Total Vegetation Community Acreage does not sum to the total 115.7-acres of the project area. Open water and areas mapped as two community types (i.e. 4/18) are not included in this calculation.

VEGETATION TRANSECTS

Kindstater		Da	ate:6/6/2023	
Transect Number	1	Compa	ss Direction from Sta	rt: <u>240</u>
Interval Data:				
Ending Station	35 C	Community Type:	Salix exigua /	
Species	(Cover class	Species	Cover clas
Bare Ground		0	Juncus balticus	2
Populus deltoides		2	Salix exigua	5
Salix lutea		1	Schoenoplectus pungens	(
Ending Station	118 (Community Type:	Elymus spp. / Bromus spp.	
Species	C	Cover class	Species	Cover clas
Agropyron cristatum		1	Bare Ground	3
Bromus inermis		2	Bromus japonicus	(
Bromus tectorum		4	Cirsium arvense	
Convolvulus arvensis		2	Elymus repens	
Elymus trachycaulus		0	Heterotheca villosa	
Lactuca serriola		1	Marrubium vulgare	
Nassella viridula		3	Sporobolus cryptandrus	:
Verbascum thapsus		0		
Ending Station	226 (Community Type:	Populus deltoides /	
Species	(Cover class	Species	Cover clas
Asclepias speciosa		1	Bare Ground	(
Bromus inermis		1	Carex nebrascensis	
Carex praegracilis		2	Cirsium arvense	
Convolvulus arvensis		1	Elaeagnus angustifolia	
Eleocharis palustris		2	Elymus repens	
Elymus trachycaulus		1	Juncus balticus	:
Lactuca serriola		1	Medicago lupulina	
Poa palustris		1	Populus deltoides	•
Salix exigua		4	Salix lutea	;
Schoenoplectus pungens		1	Sonchus arvensis	
Taraxacum officinale		0		

Ending Station	300 Community Type:	Elymus spp. / Bromus spp.	
Species	Cover class	Species	Cover class
Agropyron cristatum	0	Alyssum alyssoides	0
Bare Ground	2	Bromus inermis	2
Bromus japonicus	1	Bromus tectorum	3
Cirsium arvense	0	Convolvulus arvensis	1
Erodium cicutarium	0	Nassella viridula	2
Poa compressa	1	Poa pratensis	0
Salix exigua	1	Sporobolus cryptandrus	0
Tragopogon dubius	0		

Transect Notes:

Recent precipitation has resulted in 18' of surface water at T-1 start.

Transect Number: 2 Compass Direction from Start: 225

Interval Data:

Ending Station	331	Community Type:	Alopecurus arundinaceus / Ty	/pha latifolia
Species		Cover class	Species	Cover class
Alopecurus arundinaceus		1	Bare Ground	2
Carex nebrascensis		0	Carex pellita	1
Cirsium arvense		0	Elaeagnus angustifolia	1
Elymus repens		2	Juncus balticus	0
Juncus compressus		0	Lemna minor	1
Open Water		5	Phalaris arundinacea	4
Poa pratensis		1	Salix exigua	0
Salix lutea		1	Schoenoplectus acutus	1
Schoenoplectus pungens		1	Taraxacum officinale	1
Typha latifolia		2	Veronica anagallis-aquatica	0
Ending Station	388	Community Type:	Alopecurus arundinaceus /	
Species		Cover class	Species	Cover class
Alopecurus arundinaceus		5	Bare Ground	1
Carex praegracilis		0	Cirsium arvense	1
Elaeagnus angustifolia		2	Juncus balticus	1
Phalaris arundinacea		0	Poa pratensis	3

Transect Notes:

Populus deltoides

T-2 start is now located in WT 5. During the 2022 monitoring event, open water was noted to have increased significantly. These conditions were present along the transect again in 2023, and the total number of species observed have correspondingly decreased.

1

Compass Direction from Start: 290 Transect Number: 3

Interval Data:				
Ending Station	13	Community Type:	Alopecurus arundinaceus /	
Species		Cover class	Species	Cover class
Alopecurus arundinaceus		5	Bare Ground	0
Poa pratensis		1	Schoenoplectus acutus	0
Ending Station	252	Community Type:	Typha latifolia /	
Species		Cover class	Species	Cover class
Alopecurus arundinaceus		1	Lemna minor	1
Open Water		2	Persicaria amphibia	0
Phalaris arundinacea		2	Schoenoplectus acutus	3
Typha latifolia		5		
Ending Station	292	Community Type:	Alopecurus arundinaceus /	
Species		Cover class	Species	Cover class
Alopecurus arundinaceus		3	Bare Ground	0
Convolvulus arvensis		0	Elaeagnus angustifolia	1
Elymus repens		1	Phalaris arundinacea	3
Poa pratensis		1	Schedonorus pratensis	1

Transect Notes:

A decrease in species diversity is noteable along this transect. This is a result of in the increased depth of inundation in the excated wetland cell. Monocultures of creeping meadow-foxtail at the vegetation/open water boundary are drowning. This area may diversify with more water tolerant species (i.e. Carex spp.) observed elsewhere in the site in future years.

PLANTED WOODY VEGETATION SURVIVAL

Kindsfater

Planting Type	#Planted	#Alive Notes
Cornus alba	130	
Crataegus douglasii	50	
Juniperus scopulorum	50	
Populus spp.	140	
Prunus virginiana	50	
Rosa woodsii	50	
Salix spp.	2800	
Shepherdia argentea	50	
TOTAL	3320	

Comments

Approximately 27 woody planting areas were mapped by MDT in 2013, generally located around the excavated basins. Locations for the planted vegetation are shown on Figure A-2. Survival of woody plantings was not quantitatively assessed during the 2023 monitoring event because the success criteria is tied to survival after a five year period. However, volunteer woody species (Salix spp. and Populus spp.) are observed across the site, particularly in the excavated wetland cells in the east portion of the site. The woody vegetation provides important structural and habitat diversity for birds and other wildlife.

Kindsfater

WILDLIFE

Birds

Were man-made nesting structures installed	? <u>No</u>
If yes, type of structure:	
How many?	
Are the nesting structures being used?	No
Do the nesting structures need repairs?	No

Nesting Structure Comments:

Species	#Observed	Behavior	Habitat
American Redstart	1	L	
American Robin	3	L, F	
Bald Eagle	1	FO	
Barn Swallow	5	FO	
Blue Jay	1	FO	
Canada Goose	1	FO	
Common Grackle	2	L	
Common Yellowthroat	5	L, FO	
European Starling	30	L, FO	
House Wren	4	L, FO	
Killdeer	2	L, FO, F	
Mallard	2	L	
Marsh Wren	2	L	
Mourning Dove	2	L	
Pheasant	1	F	
Red-winged Blackbird	25	L, FO, F	
Sandhill Crane	2	F, N	
Song Sparrow	4	L	
Sora	1	F	
Western Wood-Pewee	1	L	
Wilson's Snipe	3	L, F, N	
Yellow Warbler	4	L, F	
Yellow-headed Black Bir	rd 2	L, F	

Bird Comments

A total of 23 bird species were observed at the mitigation the site in 2023.

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

Chorus frog 1 No No No Heard

White-tailed Deer 1 No Yes Yes Game trails, scat, and beds

Wildlife Comments:

This site provides a diversity of habitat features for bird and other wildlife. Six dead common carp (Cyprinus carpio) were observed decaying on the fringe of the open water area and shores of wetland cell 2.

Kindsfater

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	45.690153	-108.697518			
DP01w	45.690046	-108.697576			
DP02u	45.690684	-108.69828			
DP02w	45.690674	-108.698383			
DP03u	45.691533	-108.695087			
DP03w	45.691431	-108.695103			
DP04u	45.694652	-108.697989			
DP04w	45.694518	-108.697848			
DP05u	45.693436	-108.69331			
DP05w	45.693203	-108.693351			
DP06u	45.695344	-108.696219			
DP06w	45.695398	-108.696165			
DP07u	45.694895	-108.693897			
DP07w	45.694917	-108.693964			
DP08u	45.695186	-108.692045			
DP08w	45.695108	-108.692036			
DP09u	45.695618	-108.691753			
DP09w	45.695568	-108.69166			
DP10u	45.694887	-108.689932			
DP10w	45.69485	-108.689969			
DP11u	45.693605	-108.691301			
DP11w	45.693486	-108.691184			
DP12u	45.690375	-108.69867			
DP12w	45.690412	-108.698628			
PP-1	45.69342	-108.690247	280	Wetland cell 14	
PP-10	45.694847	-108.698418	140	Wetland cell 3	
PP-11	45.695892	-108.697601	350	Wetland cell 7	

PP-12	45.694939	-108.696663	230	Wetland cell 6
PP-2	45.695136	-108.691839	280	Wetland cell 13
PP-3	45.694612	-108.69443	0	Wetland cell 9
PP-4	45.694935	-108.691902	200	Wetland cell 12
PP-5	45.694748	-108.694458	10	Wetland cell 11
PP-6	45.694084	-108.694321	150	Wetland cell 10
PP-7	45.698065	-108.698065	90	Wetland cell 5
PP-8	45.694939	-108.698429	315	Wetland cell 2
PP-9	45.694302	-108.698044	90	Wetland cell 1
T-1-E	45.695072	-108.691437	50	Transect 1 end
T-1-S	45.695357	-108.690285	240	Transect 1 start
T-2-E	45.693184	-208.696573	40	Transect 2 end
T-2-S	45.693763	-108.695288	225	Transect 2 start
T-3-E	45.693317	-108.698486	110	Transect 3 end
T-3-S	45.693317	-108.697517	290	Transect 3 start

Comments:

Kindsfater

ADDITIONAL ITEMS CHECKLIST

	Hydrology
□ ☑ line	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 es, 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
v /	Assess soils
	Wetland Delineations
✓ Sur	Delineate wetlands according to applicable USACE protocol (1987 form or
Su _r	oplement) Delineate wetland – upland boundary onto aerial photograph.
We	etland Delineation Comments
	The total wetland acreage delineated in 2023 (including preexisting wetland areas) was 38.18 acres. A total of 0.74-acres of open water were delineated in wetland cells 1, 2, and 3.
_	Functional Assessments
✓ forn	Complete and attach full MDT Montana Wetland Assessment Method field ms.
Fur	nctional Assessment Comments:
-	The overall rating for the assessment areas at the mitigation site is Category 3.

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? No

If yes, are the structures in need of repair?

If yes, describe the problems below.

The wire fence (near the MDT green entrance gate) along the southwest boundary of the site has been cut and needs repair.

Project/Site: Kindsfater	(City/Co	ounty:	Yellows	tone County	Sampling Da	te: 2023-06-07
Applicant/Owner: MDT	-	•	-		State: Montana		·
Investigator(s): J Trilling	;				nge: S06 T2S R25E		
Landform (hillslope, terrace, etc.): Base Slope		Local	relief	(concave,	convex, none): Linear		Slope (%): 5
Subregion (LRR): G 58A							
Soil Map Unit Name: LI - Larim gravelly loam, 15 to 3							
Are climatic / hydrologic conditions on the site typical for this							
Are Vegetation, Soil, or Hydrologys					'Normal Circumstances"		No.
Are Vegetation, Soil, or Hydrology n					eeded, explain any answe		
SUMMARY OF FINDINGS – Attach site map							
Hydrophytic Vegetation Present? Yes N	0		Is the	e Sampled	Area		
Hydric Soil Present? Yes N	·		withi	in a Wetlar	nd? Yes	No	<u></u>
Wetland Hydrology Present? Yes N Remarks:	o <u> </u>						
	:				;		
Upland sample point located north of DP01v					•	a upiand co	mmunity
type. Recent heavy rains have increased so	ıı saturat	ion a	acros	ss the si	.e.		
VEGETATION – Use scientific names of plan	ts.						
Tree Stratum (Plot size: 30 ft r	Absolute				Dominance Test work	sheet:	
	% Cover				Number of Dominant S That Are OBL, FACW,		
1 2	·				(excluding FAC+):	0 <u>0</u>	(A)
3.					Total Number of Domir	nant	
4					Species Across All Stra	_	(B)
	0	= Tota	al Cov	er	Percent of Dominant S	necies	
Sapling/Shrub Stratum (Plot size: 15 ft r)					That Are OBL, FACW,		00 (A/B)
1					Prevalence Index wor	rksheet:	
2					Total % Cover of:		iltiply by:
3						x 1 =	
4					FACW species 0		
5	0	= Tota	al Cov	or .	FAC species 0	x 3 =	0
Herb Stratum (Plot size: 5 ft r	<u> </u>	- 1018	ai COV	Ci	FACU species 40		
1. Pascopyrum smithii	35			FACU	UPL species 26		
2. Bromus tectorum	20		_	UPL	Column Totals: 66	(A)	290 (B)
3. Convolvulus arvensis	5			UPL	Prevalence Index	c = B/A = 4.3	9
4. Poa pratensis 5. Sisymbrium loeselii	- 5			FACU UPL	Hydrophytic Vegetati	·	
	· 			UPL	1 - Rapid Test for		
6					2 - Dominance Tes		
7					3 - Prevalence Ind	ex is ≤3.0 ¹	
8					4 - Morphological	Adaptations ¹ (F	Provide supporting
10.					data in Remark		
10.	~~	= Tota	al Cov	er	Problematic Hydro	pnytic vegetat	ion (Explain)
Woody Vine Stratum (Plot size: 30) 1.					¹ Indicators of hydric so be present, unless dist		
2					Hydrophytic		
W.D	0	= Tota	al Cov	er	Vegetation Present? Ye	esNo	, ,
% Bare Ground in Herb Stratum 34					riescht! fe	NO	<u></u>
Remarks:							
Pascopyrum smithii and Bromus tect No hydrophytic vegetation indicators				domina	nt upland speci	es at this	data point.

US Army Corps of Engineers

B-19

Great Plains – Version 2.0

SOIL Sampling Point: DP01u

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

Depth	Matrix		Redox Features		
(inches)	Color (moist)		Color (moist) % Type ¹ Le	Texture	Remarks
0.0 - 4.0	10YR 2/2	100.0		Loam	
4.0 - 14.0	10YR 3/2	100.0		Sandy Loam Cobbly	
-					
-					
					_
-					
			duced Matrix, CS=Covered or Coated Sa		re Lining, M=Matrix.
-		cable to all LRR	s, unless otherwise noted.)	Indicators for Problema	•
Histosol			Sandy Gleyed Matrix (S4)	1 cm Muck (A9) (LRI	
-	oipedon (A2)		Sandy Redox (S5)	Coast Prairie Redox	
Black Hi	` '		Stripped Matrix (S6)	Dark Surface (S7) (I	
	n Sulfide (A4) I Layers (A5) (LRR	E)	Loamy Mucky Mineral (F1)Loamy Gleyed Matrix (F2)	High Plains Depress	of MLRA 72 & 73)
	ick (A9) (LRR F, G,		Depleted Matrix (F2)	Reduced Vertic (F18	,
	d Below Dark Surfa		Redox Dark Surface (F6)	Red Parent Material	,
-	ark Surface (A12)	CC (ATT)	Depleted Dark Surface (F7)	Very Shallow Dark S	• •
	lucky Mineral (S1)		Redox Depressions (F8)	Other (Explain in Re	
	lucky Peat or Peat	(S2) (LRR G. H)		³ Indicators of hydrophytic	
	cky Peat or Peat (S		(MLRA 72 & 73 of LRR H)	wetland hydrology m	_
	,	, , ,	,	unless disturbed or p	•
Restrictive I	ayer (if present):				
Type: <u>co</u>	bbles				
Depth (inc	ches): 14		_	Hydric Soil Present?	∕es No <u> </u>
Remarks:					
NI a lavvalui					
No nyari	ic soil indica	tors obsei	vea.		
HYDROLO					
-	drology Indicators	:			
Primary Indic	cators (minimum of				
0		one required; ch	eck all that apply)	Secondary Indicators (minimum of two required)
Surface	Water (A1)	one required; ch	eck all that apply) Salt Crust (B11)	Surface Soil Cracl	ks (B6)
, <u> </u>	•	one required; ch		Surface Soil Cracl	
, <u> </u>	Water (A1) ter Table (A2)	one required; ch	Salt Crust (B11)	Surface Soil Cracl	ks (B6) ed Concave Surface (B8)
High Wa	Water (A1) ter Table (A2)	one required; ch	Salt Crust (B11) Aquatic Invertebrates (B13)	Surface Soil Cracl Sparsely Vegetate Drainage Patterns	ks (B6) ed Concave Surface (B8)
High Wa Saturatio Water M	Water (A1) ter Table (A2) on (A3)	one required; ch	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	Surface Soil Cracl Sparsely Vegetate Drainage Patterns Oxidized Rhizospl	ks (B6) ed Concave Surface (B8) (B10)
High Wa Saturation Water M Sedimer	Water (A1) ter Table (A2) on (A3) arks (B1)	one required; ch	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2)	Surface Soil Cracl Sparsely Vegetate Drainage Patterns Oxidized Rhizospl	cks (B6) and Concave Surface (B8) and (B10) heres on Living Roots (C3)
High Wa Saturatio Water M Sedimer Drift Dep	Water (A1) Iter Table (A2) Iter (A3) Iter (B1) Iter (B2)	one required; ch	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living R	Surface Soil Crack Sparsely Vegetate Drainage Patterns Oxidized Rhizospl (where tilled) Crayfish Burrows	cks (B6) and Concave Surface (B8) and (B10) heres on Living Roots (C3)
High Wa Saturatic Water M Sedimer Drift Dep Algal Ma	Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) oosits (B3)	one required; ch	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living R	Surface Soil Crack Sparsely Vegetate Drainage Patterns Oxidized Rhizospl (where tilled) Crayfish Burrows	cks (B6) ad Concave Surface (B8) a (B10) heres on Living Roots (C3) (C8) on Aerial Imagery (C9)
High Wa Saturatio Water M Sedimer Drift Dep Algal Ma	Water (A1) ter Table (A2) on (A3) arks (B1) ot Deposits (B2) oosits (B3) at or Crust (B4)		Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living F	Surface Soil Crack Sparsely Vegetate Drainage Patterns Oxidized Rhizospl (where tilled) Crayfish Burrows Saturation Visible	(C8) on Aerial Imagery (C9) ion (D2)
High Wa Saturation Water M Sedimer Drift Dep Algal Ma Iron Dep	Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5)		Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living F	Surface Soil Crack Sparsely Vegetate Drainage Patterns Oxidized Rhizospl (where tilled) Crayfish Burrows Saturation Visible Geomorphic Posit FAC-Neutral Test	(C8) on Aerial Imagery (C9) ion (D2)
High Wa Saturation Water M Sedimer Drift Dep Algal Ma Iron Dep	Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) oosits (B3) at or Crust (B4) oosits (B5) on Vis ble on Aerial tained Leaves (B9)		Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living F	Surface Soil Crack Sparsely Vegetate Drainage Patterns Oxidized Rhizospl (where tilled) Crayfish Burrows Saturation Visible Geomorphic Posit FAC-Neutral Test	(C8) on Aerial Imagery (C9) in (D5)
High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Water-S	Water (A1) ter Table (A2) on (A3) arks (B1) tt Deposits (B2) oosits (B3) at or Crust (B4) oosits (B5) on Vis ble on Aerial tained Leaves (B9) vations:	Imagery (B7)	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living F	Surface Soil Crack Sparsely Vegetate Drainage Patterns Oxidized Rhizospl (where tilled) Crayfish Burrows Saturation Visible Geomorphic Posit FAC-Neutral Test	(C8) on Aerial Imagery (C9) in (D5)
High Wa Saturation Water M Sedimer Drift Dep Algal Ma Iron Dep Inundation Water-S	Water (A1) ter Table (A2) on (A3) arks (B1) int Deposits (B2) oosits (B3) it or Crust (B4) iosits (B5) on Vis ble on Aerial tained Leaves (B9) vations: er Present?	Imagery (B7)	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living F	Surface Soil Crack Sparsely Vegetate Drainage Patterns Oxidized Rhizospl (where tilled) Crayfish Burrows Saturation Visible Geomorphic Posit FAC-Neutral Test	(C8) on Aerial Imagery (C9) in (D5)
High Wa Saturation Water M Sedimer Drift Dep Algal Ma Iron Dep Inundation Water-S Field Observa	Water (A1) tter Table (A2) on (A3) arks (B1) at Deposits (B2) oosits (B3) at or Crust (B4) oosits (B5) on Vis ble on Aerial tained Leaves (B9) vations: er Present?	Imagery (B7) Yes No _ Yes No _	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living F	Surface Soil Crack Sparsely Vegetate Drainage Patterns Oxidized Rhizospl (where tilled) Crayfish Burrows Saturation Visible Geomorphic Posit FAC-Neutral Test	cks (B6) ad Concave Surface (B8) a (B10) heres on Living Roots (C3) (C8) on Aerial Imagery (C9) ion (D2) (D5) mocks (D7) (LRR F)
High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Water-S Field Observ Surface Water Water Table Saturation Pr (includes cap	Water (A1) ther Table (A2) on (A3) arks (B1) int Deposits (B2) posits (B3) int or Crust (B4) posits (B5) on Vis ble on Aerial tained Leaves (B9) wations: er Present? Present?	Imagery (B7) Yes No _ Yes No _ Yes No _	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living F	Surface Soil Crack Sparsely Vegetate Drainage Patterns Oxidized Rhizospl (where tilled) Crayfish Burrows Saturation Visible Geomorphic Posit FAC-Neutral Test Frost-Heave Hum	cks (B6) ad Concave Surface (B8) a (B10) heres on Living Roots (C3) (C8) on Aerial Imagery (C9) ion (D2) (D5) mocks (D7) (LRR F)
High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Water-S Field Observ Surface Water Water Table Saturation Pr (includes cap	Water (A1) ther Table (A2) on (A3) arks (B1) int Deposits (B2) posits (B3) int or Crust (B4) posits (B5) on Vis ble on Aerial tained Leaves (B9) wations: er Present? Present?	Imagery (B7) Yes No _ Yes No _ Yes No _	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living F	Surface Soil Crack Sparsely Vegetate Drainage Patterns Oxidized Rhizospl (where tilled) Crayfish Burrows Saturation Visible Geomorphic Posit FAC-Neutral Test Frost-Heave Hum	cks (B6) ad Concave Surface (B8) a (B10) heres on Living Roots (C3) (C8) on Aerial Imagery (C9) ion (D2) (D5) mocks (D7) (LRR F)
High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Water-S Field Observ Surface Water Water Table Saturation Pr (includes cap Describe Rec	Water (A1) ther Table (A2) on (A3) arks (B1) int Deposits (B2) posits (B3) int or Crust (B4) posits (B5) on Vis ble on Aerial tained Leaves (B9) wations: er Present? Present?	Imagery (B7) Yes No _ Yes No _ Yes No _	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living F	Surface Soil Crack Sparsely Vegetate Drainage Patterns Oxidized Rhizospl (where tilled) Crayfish Burrows Saturation Visible Geomorphic Posit FAC-Neutral Test Frost-Heave Hum	cks (B6) ad Concave Surface (B8) a (B10) heres on Living Roots (C3) (C8) on Aerial Imagery (C9) ion (D2) (D5) mocks (D7) (LRR F)
High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Water-S Field Observ Surface Water Water Table Saturation Pr (includes cap	Water (A1) ther Table (A2) on (A3) arks (B1) int Deposits (B2) posits (B3) int or Crust (B4) posits (B5) on Vis ble on Aerial tained Leaves (B9) wations: er Present? Present?	Imagery (B7) Yes No _ Yes No _ Yes No _	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living F	Surface Soil Crack Sparsely Vegetate Drainage Patterns Oxidized Rhizospl (where tilled) Crayfish Burrows Saturation Visible Geomorphic Posit FAC-Neutral Test Frost-Heave Hum	cks (B6) ad Concave Surface (B8) a (B10) heres on Living Roots (C3) (C8) on Aerial Imagery (C9) ion (D2) (D5) mocks (D7) (LRR F)
High Water M Saturation Water M Sedimer Drift Dep Algal Ma Iron Dep Inundation Water-S Field Observ Surface Water Water Table Saturation Profincludes cap Describe Recommendation Remarks:	Water (A1) Iter Table (A2) Iter Table (A2) Iter Table (A2) Iter Table (A2) Iter Table (B4) Iter Deposits (B2) Iter Crust (B4) Iter Crust (B4) Iter Crust (B5) Iter Visible on Aerial Italined Leaves (B9) Iter Present? Iter Present (Stream	Imagery (B7) Yes No _ Yes No _ Yes No _ n gauge, monito	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living F (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): Depth (inches): Depth (inches):	Surface Soil Crack Sparsely Vegetate Drainage Patterns Oxidized Rhizospl (where tilled) Crayfish Burrows Saturation Visible Geomorphic Posit FAC-Neutral Test Frost-Heave Hum	cks (B6) ad Concave Surface (B8) a (B10) heres on Living Roots (C3) (C8) on Aerial Imagery (C9) ion (D2) (D5) mocks (D7) (LRR F)
High Water M Saturation Water M Sedimer Drift Dep Algal Mater Iron Dep Inundation Water-S Field Observ Surface Water Water Table Saturation Profincludes cap Describe Rec	Water (A1) Iter Table (A2) Iter Table (A2) Iter Table (A2) Iter Table (A2) Iter Table (B4) Iter Deposits (B2) Iter Crust (B4) Iter Crust (B4) Iter Crust (B5) Iter Visible on Aerial Italined Leaves (B9) Iter Present? Iter Present (Stream	Imagery (B7) Yes No _ Yes No _ Yes No _ n gauge, monito	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living F	Surface Soil Crack Sparsely Vegetate Drainage Patterns Oxidized Rhizospl (where tilled) Crayfish Burrows Saturation Visible Geomorphic Posit FAC-Neutral Test Frost-Heave Hum	cks (B6) ad Concave Surface (B8) a (B10) heres on Living Roots (C3) (C8) on Aerial Imagery (C9) ion (D2) (D5) mocks (D7) (LRR F)

Project/Site: Kindsfater	(City/Co	ounty:	Yellows	tone County	Sampling	Date: 2	023-06-07
Applicant/Owner: MDT		-	-		State: Montana			
••					nge: S06 T2S R25E	. 0	_	
Landform (hillslope, terrace, etc.): Toe						<u> </u>	Slope	_{= (%)} . 5
Subregion (LRR): G 58A								
Soil Map Unit Name: An - Alluvial land, wet					NWI classific			
Are climatic / hydrologic conditions on the site typical for this								
	-				Normal Circumstances" p		/ 00	No. 🗸
Are Vegetation, Soil, or Hydrologys								NO
Are Vegetation, Soil, or Hydrology r SUMMARY OF FINDINGS – Attach site map					eded, explain any answer			turos oto
		Saiii	hiiii	y point it	ocations, transects	, import	ant ica	itures, etc.
Hydrophytic Vegetation Present? Yes N	o		Is the	e Sampled	Area			
Hydric Soil Present? Wetland Hydrology Present? Yes N Yes N	0		withi	n a Wetlar	nd? Yes <u>'</u>	No_		
Remarks:	<u> </u>							
PEM, depressional wetland. Recent hea VEGETATION – Use scientific names of plan		hav	e in	creased	l soil saturation a	cross t	he site	e.
	Absolute	Dom	inant	Indicator	Dominance Test work	sheet:		
Tree Stratum (Plot size: 30 ft r	% Cover	Spec	cies?	Status	Number of Dominant Sp	ecies		
1					That Are OBL, FACW, (excluding FAC-):	or FAC	1	(A)
2						-		(/\)
3					Total Number of Domini Species Across All Stra		2	(B)
Sapling/Shrub Stratum (Plot size: 15 ft r	0			er	Percent of Dominant Sp That Are OBL, FACW, o		50.00	(A/B)
1					Prevalence Index worl	sheet:		
2					Total % Cover of:		Multiply	by:
3					OBL species 0	x 1	= 0	
4 5.					FACW species 50	x 2	= 100	
	0	= Tota	al Cov	er		x 3		
Herb Stratum (Plot size: 5 ft r		. 0.0			FACU species 43			
1. Juncus balticus	50			FACW	UPL species 3		= 15	
2. Elymus lanceolatus	40			FACU	Column Totals: 96	(A)	287	(B)
3. Poa pratensis 4 Lepidium campestre	3 3			FACU	Prevalence Index	= B/A =	2.99	
"	- —			UPL	Hydrophytic Vegetation			
5					1 - Rapid Test for H			tion
6					2 - Dominance Tes	t is >50%		
7					✓ 3 - Prevalence Inde	x is ≤3.0 ¹		
8					4 - Morphological A	daptations	s¹ (Provid	le supporting
10.					data in Remarks			
		= Tota	al Cov	er	Problematic Hydror	onytic veg	etation (Explain)
Woody Vine Stratum (Plot size: 30) 1					¹ Indicators of hydric soil be present, unless distu			
2.					Hydrophytic			
4	0	= Tota	al Cov	er	Vegetation Present? Yes	s_ / _	No	
% Bare Ground in Herb Stratum 4					11636111: 163	<u>'</u>	No	
Juncus balticus and Elymus lanceolatus are the patch. Evidence of hydrophytic vegetation include		-			•	nd fringe	around	I the cattail

SOIL Sampling Point: DP01w

Profile Desc	ription: (Describe	to the dep	oth needed to docur	nent the	indicator	or confir	m the absence of	of indicators.)
Depth	Matrix			x Feature				
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type'	Loc ²	Texture	Remarks
0.0 - 4.0	10YR 3/1	100					Loam	
4.0 - 16.0	10YR 5/2	97.0	5YR 4/6	3	С	М	Sandy Loam	
-								
		-			-			
								
	-	·						
-								
¹Type: C=Co	oncentration, D=Dep	letion, RM	=Reduced Matrix, CS	S=Covere	d or Coate	ed Sand G	Grains. ² Loca	ation: PL=Pore Lining, M=Matrix.
Hydric Soil I	Indicators: (Applic	able to all	LRRs, unless other	rwise not	ted.)		Indicators f	or Problematic Hydric Soils ³ :
Histosol	(A1)		Sandy 0	Gleyed Ma	atrix (S4)			uck (A9) (LRR I, J)
	pipedon (A2)		-	Redox (S				Prairie Redox (A16) (LRR F, G, H)
Black Hi	, ,			d Matrix (S	•			urface (S7) (LRR G)
	n Sulfide (A4)	_\		-	neral (F1)		_	ains Depressions (F16)
	d Layers (A5) (LRR f ick (A9) (LRR F, G, l		Loamy (Loamy (-	atrix (F2)		•	R H outside of MLRA 72 & 73)
	d Below Dark Surfac			u Mairix (Dark Surfa	,			ed Vertic (F18) rent Material (TF2)
-	ark Surface (A12)	C (7111)			urface (F7))		nallow Dark Surface (TF12)
	lucky Mineral (S1)			Depressio				Explain in Remarks)
-	Mucky Peat or Peat (S2) (LRR			essions (F	16)		of hydrophytic vegetation and
5 cm Mu	icky Peat or Peat (S	3) (LRR F)	(ML	RA 72 &	73 of LRR	H)		hydrology must be present,
							unless	disturbed or problematic.
Restrictive I	_ayer (if present):							
Type:								,
Depth (inc	ches):						Hydric Soil F	Present? Yes No
Remarks:								
Promine	nt redoximo	rphic c	oncentration	s com	mon w	ithin t	the deplete	ed matrix.
							•	
HYDROLO	GY							
Wetland Hyd	drology Indicators:							
Primary Indic	cators (minimum of o	ne require	d; check all that appl	y)			Secondar	ry Indicators (minimum of two required)
Surface	Water (A1)		Salt Crust	(B11)			Surfa	ace Soil Cracks (B6)
<u>✔</u> High Wa	iter Table (A2)		Aquatic In	vertebrate	es (B13)		Spars	sely Vegetated Concave Surface (B8)
<u>✓</u> Saturatio	on (A3)		Hydrogen	Sulfide O	dor (C1)		Drain	nage Patterns (B10)
Water M	arks (B1)		Dry-Seaso	n Water	Table (C2)			zed Rhizospheres on Living Roots (C3)
Sedimer	nt Deposits (B2)		Oxidized F	Rhizosphe	eres on Liv	ing Roots	(C3) (wh	nere tilled)
Drift Dep	oosits (B3)		(where i	not tilled)		Cray	fish Burrows (C8)
Algal Ma	at or Crust (B4)		Presence	of Reduce	ed Iron (C4	4)	Satur	ration Visible on Aerial Imagery (C9)
Iron Dep	osits (B5)		Thin Muck	Surface	(C7)		<u></u> Geor	norphic Position (D2)
Inundation	on Vis ble on Aerial I	magery (B	7) Other (Exp	olain in Re	emarks)		FAC-	Neutral Test (D5)
Water-S	tained Leaves (B9)						Frost	-Heave Hummocks (D7) (LRR F)
Field Observ	vations:							
Surface Wate	er Present? Y	es	No Depth (in	ches):				
Water Table	Present? Y	es 🔽	No Depth (in	ches): <u>10</u>)	_		
Saturation Procession (includes cap		es	No Depth (in	ches): <u>4</u>		Wet	land Hydrology	Present? Yes No
		gauge, m	onitoring well, aerial ¡	photos, pi	revious ins	pections)	, if available:	
Remarks:								
	المصامحة المساهمية	vdrala -	ny inalandan bis	h+-	an +alal -	ء انده	oturotic:	nd goomorphic neether
Evidence	e or wetland h	yarolog	ıy ıncıuaes nig	n wate	er table	, SOII S	aturation, a	nd geomorphic position.

Project/Site: Kindsfater	,	City/Co	ountv.	Yellows	tone County	Sampling	Date: 202	3-06-07
Applicant/Owner: MDT		-	-		State: Montana			
••					nge: S06 T2S R25E	camping		
					convex, none): Concav	е	Slone (9	_{%)} . 3
Subregion (LRR): G 58A								
Soil Map Unit Name: LI - Larim gravelly loam, 15 to								
Are climatic / hydrologic conditions on the site typical for the								
					(ii no, explain in R "Normal Circumstances" p		' 00	No. V
Are Vegetation, Soil, or Hydrology								NO
Are Vegetation, Soil, or Hydrology SUMMARY OF FINDINGS – Attach site map					eeded, explain any answe			ros otc
		Jain	ıpıııış	y point i	ocations, transcots	, importe	ant icata	103, 010.
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Wetland Hydrology Present? Yes	No 🗸			Sampled				
Wetland Hydrology Present? Yes	No V		withi	n a Wetlar	nd? Yes	No _		
Remarks:								
Recent heavy rains have increased soil sawetland cell 2.	turation ad	cross	s the	site. Up	oland sample point	adjacent	to DP02	w and
VEGETATION – Use scientific names of pla					1			
Tree Stratum (Plot size: 30 ft r	Absolute <u>% Cover</u>				Dominance Test work			
1. Populus deltoides	25		/		Number of Dominant S That Are OBL, FACW,		_	
2. Elaeagnus angustifolia	20	~		FACU	(excluding FAC-):		1	(A)
3					Total Number of Domir	ant	_	
4					Species Across All Stra	ıta: <u>(</u>	6	(B)
Sapling/Shrub Stratum (Plot size: 15 ft r)	45	= Tota	al Cov	er	Percent of Dominant S That Are OBL, FACW,		16.67	(A/B)
1. Elaeagnus angustifolia	10			FACU				
2. Rhamnus cathartica	5			FACU	Prevalence Index wor Total % Cover of:		Multiply by	
3					_	x 1	Multiply by: = 0	
4					FACW species 0			
5						x 3		
Herb Stratum (Plot size: 5 ft r	<u>15</u>	= 1 ota	al Cov	er		x 4	= 320	
1. Schedonorus pratensis	30			FACU	UPL species 10	x 5	= 50	
2. Elymus repens	15		_	FACU	Column Totals: 115	(A)	445	(B)
3. Asperugo procumbens	10			UPL	Prevalence Index	= B/A = 3	3.87	
4					Hydrophytic Vegetation			
5					1 - Rapid Test for I			
6					2 - Dominance Tes		J	
7					3 - Prevalence Inde	ex is ≤3.0 ¹		
8 9					4 - Morphological A	Adaptations	1 (Provide s	upporting
10.					data in Remark		•	,
10.		= Tota	al Cov	er	Problematic Hydro	pnytic Vege	etation" (Exp	olain)
Woody Vine Stratum (Plot size: 30) 1					¹ Indicators of hydric so be present, unless dist			y must
2.					Hydrophytic			
	_	= Tota	al Cov	er	Vegetation Present? Ye	s	No 🗸	
% Bare Ground in Herb Stratum 45 Remarks:					i-rescrit; fe	<u> </u>		-
Vegetation at this data point is dom		-		•	•	norus p	ratensi	s and
Elymus repens. No hydrophytic veg	jetation i	indid	cato	rs obs	erved.			

US Army Corps of Engineers

B-23

Great Plains – Version 2.0

SOIL Sampling Point: DP02u

Profile Desc	ription: (Describe	to the depth r	eeded to docu	ment the i	ndicator	or confirn	n the absence	of indicators	s.)
Depth	Matrix			x Features	1				
(inches)	Color (moist)		Color (moist)	%	Type'	Loc ²	Texture		Remarks
0.0 - 13.0	10YR 3/2	100.0					Clay Loam	cobbles	
								-	
-				-					
-									
	-	 							_
	-							-	 ,
1Type: C=C	noontration D=Do	olotion DM=Do	duced Matrix CS	S=Covered		d Sand Ci		otion: DI =D	oro Lining M-Matrix
	oncentration, D=Deponderation D=Deponderation					a Sana Gi			ore Lining, M=Matrix. atic Hydric Soils³:
Histosol		545.0 to all 21th	Sandy					luck (A9) (LR	•
_	pipedon (A2)			Redox (S5	. ,				(A16) (LRR F, G, H)
Black Hi			-	d Matrix (S				urface (S7) (
	n Sulfide (A4)		Loamy	Mucky Mir	neral (F1)		High P	lains Depress	sions (F16)
	l Layers (A5) (LRR	•		Gleyed Ma			•		of MLRA 72 & 73)
	ck (A9) (LRR F, G ,			d Matrix (I	•			ed Vertic (F18	<i>'</i>
-	d Below Dark Surface	ce (A11)		Dark Surfa				arent Material	
	ark Surface (A12) lucky Mineral (S1)			d Dark Su Depressio	, ,			hallow Dark S Explain in Re	Surface (TF12)
	lucky Mineral (ST) // Aucky Peat or Peat	(S2) (IRRG H		Depression ains Depre	. ,	16)			c vegetation and
	icky Peat or Peat (S			.RA 72 & 7					ust be present,
	,	, , ,	,			,		disturbed or I	
	ayer (if present):							·	
Type: co			=						
Depth (inc	ches): 13		_				Hydric Soil	Present?	Yes No
Remarks:									
No hvdri	ic soil indica	tors obse	rved.						
,									
HYDROLO	GY								
Wetland Hyd	drology Indicators	:							
	cators (minimum of		neck all that appl	y)			Seconda	ry Indicators	(minimum of two required)
Surface	Water (A1)		Salt Crust	(B11)			Surf	ace Soil Crac	ks (B6)
	ter Table (A2)		Aquatic In		s (B13)				ed Concave Surface (B8)
<u>✓</u> Saturatio	on (A3)		Hydrogen	Sulfide Od	dor (C1)		Drai	nage Patterns	s (B10)
Water M	arks (B1)		Dry-Seaso	on Water T	able (C2)		Oxio	lized Rhizosp	heres on Living Roots (C3)
Sedimer	nt Deposits (B2)		Oxidized F	Rhizosphe	res on Livi	ng Roots	(C3) (w	here tilled)	
Drift Dep	oosits (B3)		(where	not tilled)			Cray	fish Burrows	(C8)
Algal Ma	it or Crust (B4)		Presence	of Reduce	d Iron (C4	.)	Satu	ıration Visible	on Aerial Imagery (C9)
Iron Dep	osits (B5)		Thin Muck	Surface (C7)		Geo	morphic Posi	tion (D2)
	on Vis ble on Aerial	Imagery (B7)	Other (Exp	olain in Re	marks)			-Neutral Test	
	tained Leaves (B9)						Fros	st-Heave Hum	mocks (D7) (LRR F)
Field Observ									
Surface Water			Depth (in			-			
Water Table			Depth (in			_			. ن
Saturation Procession (includes cap		Yes No	Depth (in	ches): 0		_ Wetl	and Hydrolog	y Present?	Yes No
	corded Data (strean	n gauge, monito	oring well, aerial	photos, pr	evious ins	pections),	if available:		
	(5 5 7 8 11	,	. / 151	-	/1			
Remarks:									
	ımstances are not	present, and r	ecent rains and	surface	runoff hav	ve resulte	ed in wetland h	nydrology at	this area. However, the
	cks hydric soil de								

Project/Site: Kindsfater	(City/Co	unty:	Yellows	tone County	Sampling Date	e: 2023-06-07
			-		State: Montana	Sampling Poir	nt: DP02w
Investigator(s): J Trilling	;	Section	ı, Tow	/nship, Rar	nge: S06 T2S R25E		
Landform (hillslope, terrace, etc.): Flat		Local r	elief (concave,	convex, none): Concave	e (Slope (%): 3
Subregion (LRR): G 58A	Lat: 45.	69067	74		Long: -108.698383	Da	atum: NAD 83
Soil Map Unit Name: LI - Larim gravelly loam, 15 to 35							
Are climatic / hydrologic conditions on the site typical for this	time of yea	ar? Ye	s	No	(If no, explain in R	emarks.)	
Are Vegetation, Soil, or Hydrology signature.					Normal Circumstances" p		No 🗸
Are Vegetation, Soil, or Hydrology na					eded, explain any answe		
SUMMARY OF FINDINGS – Attach site map s	howing	samp	oling	point lo	ocations, transects	, important	features, etc.
Hydrophytic Vegetation Present? Yes No	ı						
Hydric Soil Present? Yes V				Sampled n a Wetlan		No	
Wetland Hydrology Present? Yes No		,		i a wellan		NO	
Remarks:							
PEM, depressional wetland. Recent heav	y rains	have	e ind	creased	l soil saturation a	cross the	site.
VEGETATION – Use scientific names of plant	s.						
7. 0. 1. 20 ft r	Absolute				Dominance Test work	sheet:	
	% Cover				Number of Dominant Sp	•	
1					That Are OBL, FACW, (excluding FAC-):	or FAC 1	(A)
2 3					,		
4					Total Number of Domin Species Across All Stra		(B)
	0	= Total	Cove	er	Percent of Dominant Sp	pecies	
Sapling/Shrub Stratum (Plot size: 15 ft r					That Are OBL, FACW,		.00 (A/B)
1					Prevalence Index wor	ksheet:	
2					Total % Cover of:	Mult	tiply by:
3					OBL species 0	x 1 = <u>C</u>)
5.					FACW species 60		
	0	= Total	Cove	er	FAC species 0		
Herb Stratum (Plot size: 5 ft r					FACU species 0		
1. Phalaris arundinacea	60			FACW	UPL species 0		00
2					Column Totals: 60	(A) <u>1</u>	20 (B)
3					Prevalence Index	= B/A = 2.00)
4					Hydrophytic Vegetation	n Indicators:	
5 6					✓ 1 - Rapid Test for F	-lydrophytic Ve	getation
7					2 - Dominance Tes	t is >50%	
8.					✓ 3 - Prevalence Inde		
9.					4 - Morphological A data in Remarks	\daptations¹ (Pi	ovide supporting
10					Problematic Hydro	•	,
20	60	= Total	Cove	er			, , ,
Woody Vine Stratum (Plot size: 30					¹ Indicators of hydric soi be present, unless distu		
1 2					Hydrophytic		
	^	= Total	Cove	er	Vegetation	.,	
% Bare Ground in Herb Stratum 40		. 5.01			Present? Ye	s No	
Remarks:							
Data point is located in a monoculture of Pha	ılaris aru	ındin	acea	a. Evider	nce of hydrophytic	vegetation	includes a
positive rapid test, a positive dominance tes	t, and a	preva	alend	ce index	less than or equal	to 3.0.	

US Army Corps of Engineers B-25 Great Plains – Version 2.0

SOIL Sampling Point: DP02w

Profile Desc	ription: (Describe	to the dep	th needed to docu	ment the	indicator	or confir	m the absence	of indicators.)
Depth	Matrix			x Feature	es	2	-	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	<u>Texture</u>	Remarks
0 - 3	10YR 3/2	100.0					Sandy Loam	gravel
3 - 16	10R 5/1	60	5YR 4/6	40	<u>C</u>	М	Sandy Loam	cobbles
-								
-							-	
				-		-	·	
				-				
	-						-	
-								
			=Reduced Matrix, C			ed Sand G		cation: PL=Pore Lining, M=Matrix.
_		cable to all	LRRs, unless othe					for Problematic Hydric Soils ³ :
Histosol	(A1) pipedon (A2)			Gleyed M Redox (S	. ,			Muck (A9) (LRR I, J) Prairie Redox (A16) (LRR F, G, H)
Black Hi	. , ,		-	d Matrix (urface (S7) (LRR G)
	n Sulfide (A4)			,	ineral (F1)			lains Depressions (F16)
Stratified	d Layers (A5) (LRR	F)	Loamy	Gleyed M	latrix (F2)		(LR	R H outside of MLRA 72 & 73)
	ick (A9) (LRR F, G ,			d Matrix (. ,			ed Vertic (F18)
	d Below Dark Surfa ark Surface (A12)	ce (A11)	_	Dark Surf	ace (F6) urface (F7)			arent Material (TF2) hallow Dark Surface (TF12)
·	fucky Mineral (S1)			Depression)		Explain in Remarks)
	lucky Peat or Peat	(S2) (LRR (essions (F	16)		of hydrophytic vegetation and
5 cm Mu	icky Peat or Peat (S	33) (LRR F)	(ML	RA 72 &	73 of LRR	H)	wetland	hydrology must be present,
							unless	disturbed or problematic.
	_ayer (if present):							
Type: co							1	
	ches): <u>16</u>						Hydric Soil	Present? Yes No
Remarks:								
Promine	nt redoximo	rphic c	oncentration	s man	y with	in the	depleted	matrix.
HYDROLO	GY							
Wetland Hyd	drology Indicators	:						
-			d; check all that appl	y)			Seconda	ry Indicators (minimum of two required)
<u>✓</u> Surface	Water (A1)		Salt Crust	(B11)			Surf	ace Soil Cracks (B6)
✓ High Wa	iter Table (A2)		Aquatic In		es (B13)			rsely Vegetated Concave Surface (B8)
✓ Saturation	on (A3)		Hydrogen	Sulfide C	dor (C1)		Drai	nage Patterns (B10)
	arks (B1)		Dry-Seaso	on Water	Table (C2)		Oxid	lized Rhizospheres on Living Roots (C3)
	nt Deposits (B2)		Oxidized F			ing Roots		here tilled)
	posits (B3)			not tilled			-	/fish Burrows (C8)
_	at or Crust (B4)		Presence			1)		ration Visible on Aerial Imagery (C9)
Iron Dep	oosits (B5) on Vis ble on Aerial	Imagon/ (P	Thin Muck 7) Other (Ex					morphic Position (D2) -Neutral Test (D5)
	tained Leaves (B9)	illiagery (D	/) Other (EX	piaiii iii Ki	emaiks)			t-Heave Hummocks (D7) (LRR F)
Field Observ	. ,						1100	(ETTT)
Surface Water		Yes 🗸	No Depth (in	ches): 3				
Water Table			No Depth (in					
Saturation Pr			No Depth (in			Wet	tland Hydrology	y Present? Yes No
(includes cap	oillary fringe)							
Describe Red	corded Data (strear	n gauge, m	onitoring well, aerial	photos, p	revious ins	pections)	, it available:	
Remarks:								
	_		ncludes surface	water	, high w	ater tal	ole, soil satu	ration, geomorphic position,
and a pos	itive fac-neutr	al test.						

State Montana Sampling Point DP03u Montange	Project/Site: Kindsfater		City/C	ounty	Yellows	tone County	Sampling D	ate: 2023	8-06-07
	Applicant/Owner: MDT		-	-					
Landtown (hillslope, terrace, etc.): Backslope	••						3		
Solid Map Unit Name: Li - Larim gravelly loam, 15 to 35 percent slopes								Slope (%)· O
No No No No No No No No No No									
Are climatic / hydrologic conditions on the site typical for this time of year? Yes						=			
Are Vegetation	•							парроа	
Summary Soil		-							
SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes No Ves Within a Wetland? Yes No Ves No V									No
Hydrophytic Vegetation Present? Yes No Ves within a Wetland? Ves No Ves N	Are Vegetation, Soil, or Hydrology	naturally pro	blema	atic?	(If ne	eeded, explain any answe	rs in Remark	s.)	
Wetland Hydrology Present? Yes No Wetland Hydrology must be present, unless disturbed or problematic. Yes No Wetland Hydrology must be present, unless disturbed or problematic. Yes No Wetland Hydrology must be present. Yes No We	SUMMARY OF FINDINGS – Attach site map	showing	sam	plin	g point l	ocations, transects	, importai	nt featur	es, etc.
Wetland Hydrology Present? Yes No	Hydrophytic Vegetation Present? Yes	No 🗸		la 4h	a Camplad	Area			
Remarks: Recent heavy rains have increased soil saturation across the site. Upland data point located on hillside above DP03w. VEGETATION – Use scientific names of plants. Tree Stratum (Plot size: 30 ft r	Hydric Soil Present? Yes !	No 🔽			_		No	~	
Recent heavy rains have increased soil saturation across the site. Upland data point located on hillside above DP03w. VEGETATION – Use scientific names of plants. Tree Stratum (Plot size: 30 ft r)	Wetland Hydrology Present? Yes 1	No		WILII	iii a vvetiai	iur res	NO		
DP03w. VEGETATION - Use scientific names of plants. Dominant Indicator Species? Status Statu	Remarks:								
Name	Recent heavy rains have increased soil sat	uration ad	cros	s the	site. Up	land data point loc	ated on h	illside al	oove
Dominant Indicator	DP03w.								
Number of Dominant Species Status Number of Dominant Species Status Number of Dominant Species Number of Dominant Specie	VEGETATION – Use scientific names of plan	nts.							
Elaeagnus angustifolia	7. 0. 1. (D.) 30 ft r					Dominance Test work	sheet:		
2									
Total Number of Dominant Species Across All Strata: 2 (B)							or FAC 0		(A)
Species Across All Strata: 2 (B)									_ ` ,
10			-				_		(B)
That Are OBL, FACW, or FAC: 0.00 (A/B)	T-		= Tota	al Cov	/er	Porcent of Dominant Cr			
2. Prevalence Index worksheet: Total % Cover of: Multiply by:	Sapling/Shrub Stratum (Plot size: 15 ft r)							.00	_ (A/B)
Total % Cover of: Multiply by:	1					Provolence Index wer	kohooti		
4.								Iultiply by:	
FACW species S X 2 = 10 FAC FACU									
Day Factor Fac					-	1			
Facu	5					· ·			
1. Elymus repens 50 v FACU FACU UPL species 8 x 5 = 40 360 (B) 2. Asclepias speciosa 10 FAC Column Totals: 93 (A) 360 (B) 3. Artemisia absinthium 8 UPL Prevalence Index = B/A = 3.87 3.87 5. Phalaris arundinacea 5 FACW Hydrophytic Vegetation Indicators: Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) 1. 83 = Total Cover Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. 2. 0 = Total Cover Hydrophytic Vegetation Present? Yes No	Herb Stratum (Plot size: 5 ft r	<u>U</u>	= Tot	al Cov	/er	FACU species 70	x 4 =	280	
Artemisia absinthium 4. Cirsium arvense 5. Phalaris arundinacea 5. Phalaris arundinacea 6. Poa pratensis 7.		50	•	/	FACU				
4. Cirsium arvense 5 FACU 5 Phalaris arundinacea 5 FACW 6. Poa pratensis 7. 8. 9. 10. Woody Vine Stratum (Plot size: 30) 1. Woody Vine Stratum (Plot size: 30) 1. Bare Ground in Herb Stratum 17 Prevalence Index = B/A = 3.87 Hydrophytic Vegetation Indicators:	2. Asclepias speciosa	10			FAC	Column Totals: 93	(A)	360	(B)
5. Phalaris arundinacea 5. FACW 6. Poa pratensis 7.	3. Artemisia absinthium	8			UPL		2	07	
5 FACU 6. Poa pratensis 7	· · ·	5			FACU				
7	0.				FACW				
8	6. Poa pratensis	5			FACU	· ·		/egetation	
8	7								
data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes No	8							(Provide si	nnorting
Woody Vine Stratum (Plot size: 30) 1.	9								
Woody Vine Stratum (Plot size: 30) 1.	10					Problematic Hydro	ohytic Vegeta	ation ¹ (Expl	ain)
2				al Cov	ver .				must
% Bare Ground in Herb Stratum 17							·		
% Bare Ground in Herb Stratum 17 Present? Yes No V		•	= Tot	al Co					
	% Bare Ground in Herb Stratum 17		- 100	ui 00\	v ()	_	s N	No	
Remarks:	Remarks:					I .			
Data point is located in a vegetation community dominated by upland grasses. No evidence of hydrophytic vegetation indicators observed.			-	•	minate	ed by upland gra	sses. N	o evide	nce

US Army Corps of Engineers

B-27

Great Plains – Version 2.0

SOIL Sampling Point: DP03u

Profile Desc	ription: (Describe	to the depth r	needed to docur	nent the i	ndicator	or confirn	n the absence	of indicators.)
Depth	Matrix			x Feature:				
(inches)	Color (moist)		Color (moist)	%	Type ¹	Loc ²	<u>Texture</u>	Remarks
0.0 - 6.0	10YR 2/1	100.0					Loam	
8.0 - 16.0	10YR 5/3	60.0					Clay Loam	
	10YR 3/1	40.0					Clay Loam	Cobbly
-								
_	-							
								
-								
	oncentration, D=De					d Sand G		cation: PL=Pore Lining, M=Matrix.
_	Indicators: (Applic	cable to all LRI						for Problematic Hydric Soils ³ :
Histosol	` '		Sandy (Jieyed Ma Redox (S5	. ,			Muck (A9) (LRR I, J) Prairie Redox (A16) (LRR F, G, H)
Black Hi	oipedon (A2) stic (A3)		-	d Matrix (S				Surface (S7) (LRR G)
	n Sulfide (A4)			Mucky Mir	,			Plains Depressions (F16)
	Layers (A5) (LRR	F)		Gleyed Ma	. ,			RR H outside of MLRA 72 & 73)
	ıck (A9) (LRR F, G,	•		d Matrix (I			Reduc	ed Vertic (F18)
	d Below Dark Surfac	ce (A11)	Redox I	Dark Surfa	ice (F6)			arent Material (TF2)
	ark Surface (A12)				rface (F7)			Shallow Dark Surface (TF12)
	fucky Mineral (S1)	(00) (100 0 11		Depression		40)		(Explain in Remarks)
	Mucky Peat or Peat		. —	•	essions (F	•		of hydrophytic vegetation and
5 CITI IVIU	icky Peat or Peat (S	55) (LRK F)	(IVIL	KA 12 & 1	73 of LRR	п)		d hydrology must be present, disturbed or problematic.
Restrictive I	_ayer (if present):						4111000	addatabed of problematic.
Type: co								
Depth (inc	ches): 16		_				Hydric Soil	Present? Yes No
Remarks:	, <u>-</u>							
No bydri	io ooil indioo	toro oboo	rvod					
NO HYUH	ic soil indica	tors obse	rvea.					
HYDROLO	CV							
_	drology Indicators			- Δ			0	and the disease of the second section of the section of the second section of the section of the second section of the section of the second section of the s
-	cators (minimum of	one required; ci						ary Indicators (minimum of two required)
	Water (A1)		Salt Crust		- (D40)			face Soil Cracks (B6)
	iter Table (A2)		Aquatic In					rsely Vegetated Concave Surface (B8)
Saturatio	arks (B1)		Hydrogen					inage Patterns (B10) dized Rhizospheres on Living Roots (C3)
	nt Deposits (B2)		Dry-Seaso Oxidized F			na Poots	· <u></u>	where tilled)
·	oosits (B3)			not tilled)		119 110018		yfish Burrows (C8)
	at or Crust (B4)		Presence			.)		uration Visible on Aerial Imagery (C9)
	oosits (B5)		Thin Muck		•	,	· <u></u>	emorphic Position (D2)
-	on Vis ble on Aerial	Imagery (B7)	Other (Exp				· <u></u>	C-Neutral Test (D5)
	tained Leaves (B9)	-3-7()			,			st-Heave Hummocks (D7) (LRR F)
Field Observ	vations:							· · · · · · · · · · · · · · · · · · ·
Surface Water	er Present?	Yes No	Depth (in	ches):				
Water Table			Depth (in					
Saturation Pr			Depth (in				and Hydrolog	y Present? Yes No
(includes cap	oillary fringe)							
Describe Red	corded Data (stream	n gauge, monito	oring well, aerial	pnotos, pr	evious ins	pections),	ıt avaılable:	
Dam: -:-l								
Remarks:								
The satura	ation recorded	is likely att	ributed to re	cent he	avy rair	nfall. Su	stained we	tland hydrology is not present.

Project/Site: Kindsfater	(City/Cou	_{intv} . Yellowst	tone County	Sampling Date: 2023-06-07
Applicant/Owner: MDT		-	•		Sampling Point: DP03w
• •				nge: S06 T2S R25E	
					e Slope (%): 2
					Datum: NAD 83
				=	
Soil Map Unit Name: LI - Larim gravelly loam, 15 to 3					<u>- </u>
Are climatic / hydrologic conditions on the site typical for thi	is time of yea	ar? Yes			
Are Vegetation, Soil, or Hydrology	significantly	disturbe	d? Are "	Normal Circumstances" p	present? Yes No
Are Vegetation, Soil, or Hydrologyı	naturally pro	blematio	c? (If ne	eded, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS - Attach site map	showing	samp	ling point lo	ocations, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes N	lo.				
Hydric Soil Present? Yes V	lo		s the Sampled		No
Wetland Hydrology Present? Yes N	lo	V	vithin a Wetlan	id? Yes	NO
Remarks:					
PEM, depressional/riverine wetland. Recen		ains h	ave increas	ed soil saturation a	icross the site.
VEGETATION – Use scientific names of plan					
Tree Stratum (Plot size: 30 ft r	Absolute % Cover		ant Indicator es? Status	Dominance Test work	
1. Populus deltoides	10		FAC	Number of Dominant Sp That Are OBL, FACW, of	
2. Elaeagnus angustifolia				(excluding FAC-):	2 (A)
3.				Total Number of Domin	ant
4				Species Across All Stra	•
Sapling/Shrub Stratum (Plot size: 15 ft r	<u>15</u>		Cover	Percent of Dominant Sp That Are OBL, FACW, o	
1			<u> </u>	Prevalence Index wor	ksheet:
2				Total % Cover of:	
3					x 1 = 5
4			<u> </u>	•	x 2 = 102
5	•		Cover	FAC species 12	x 3 = <u>36</u>
Herb Stratum (Plot size: 5 ft r	<u> </u>	= Total	Covei	FACU species 25	x 4 = 100
1. Alopecurus arundinaceus	50		FACW	UPL species 0	
2. Cirsium arvense	10		FACU	Column Totals: 93	(A) <u>243</u> (B)
3. Poa pratensis	10		FACU		2.61
4. Carex nebrascensis	5		OBL	Prevalence Index	
5. Asclepias speciosa	2		FAC	Hydrophytic Vegetatio	
6. Carex praegracilis	1		FACW		Hydrophytic Vegetation
7				✓ 2 - Dominance Tes✓ 3 - Prevalence Inde	
8				 -	Adaptations ¹ (Provide supporting
9				data in Remarks	s or on a separate sheet)
10				Problematic Hydro	phytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size: 30)		= Total	Cover	¹ Indicators of hydric soi be present, unless distu	l and wetland hydrology must urbed or problematic.
2.				Hydrophytic	
	0	= Total	Cover	Vegetation	.,
% Bare Ground in Herb Stratum 22		· otal	20101	Present? Yes	s No
Remarks:					
Vegetation at the data point is largely domi	nated by	Alope	curus arun	dinaceus. Evidence	e of hydrophytic
vegetation includes a positive dominance to	-				

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B-29

Great Plains – Version 2.0

SOIL Sampling Point: DP03w

Profile Desc	ription: (Describe	to the dep	th needed to docur	nent the	indicator	or confirm	n the absence	of indicato	rs.)
Depth	Matrix			x Feature		. ,	_		
(inches)	Color (moist)		Color (moist)	%	Type ¹	Loc ²	Texture		Remarks
0.0 - 8.0	5Y 2.5/1	100.0					Silt Loam	moist	
8 - 18	10YR 5/2	93	10YR 5/6	7	<u>C</u>	PL / M	Clay Loam		
-									
-									
-									
	-								
									_
	-								
							. 2.		
			=Reduced Matrix, CS LRRs, unless other			ed Sand G			Pore Lining, M=Matrix. natic Hydric Soils³:
Histosol		Lable to all	Sandy (fuck (A9) (L	•
	oipedon (A2)		·	Redox (S					ox (A16) (LRR F, G, H)
Black Hi			-	Matrix (urface (S7)	
Hydroge	en Sulfide (A4)		Loamy I	Mucky Mi	neral (F1)				ssions (F16)
	d Layers (A5) (LRR				atrix (F2)		`		e of MLRA 72 & 73)
	ick (A9) (LRR F, G,		<u>✓</u> Deplete					ed Vertic (F	,
	d Below Dark Surfac ark Surface (A12)	Le (ATT)		Dark Surfa d Dark Si	ace (F6) urface (F7))		arent Materia hallow Dark	al (TF2) Surface (TF12)
·	fucky Mineral (S1)			Dark St Depressio		•		Explain in R	, ,
2.5 cm N	Mucky Peat or Peat				essions (F	16)			tic vegetation and
5 cm Mu	icky Peat or Peat (S	33) (LRR F)	(ML	RA 72 &	73 of LRR	H)			must be present,
Postriative !	over (if present):						unless	disturbed or	problematic.
	Layer (if present):								
Type:	ches):						Hydric Soil	Drocont?	Yes No
Remarks:							Tiyuric 30ii	r resent:	163 110
									•
Promine	nt redoximo	rphic c	oncentration	s com	mon w	ithin t	he deplet	ed matr	TX.
LIVEROLO	CV .								
HYDROLO									
	drology Indicators		d d d 11 46 . 4				0		(astatas as a fit as as a satural)
		one require	d; check all that apply						s (minimum of two required)
	Water (A1) ater Table (A2)		Salt Crust		oo (D12)			ace Soil Cra	
Saturation	, ,		Aquatic Inv					rsely vegeta nage Patteri	ated Concave Surface (B8)
	larks (B1)		Dry-Seaso						pheres on Living Roots (C3)
	nt Deposits (B2)		Oxidized F		, ,			here tilled)	F5.55 511 E171119 (10010 (00)
	posits (B3)			not tilled		5 : :50.0		fish Burrow	s (C8)
	at or Crust (B4)		Presence			1)			e on Aerial Imagery (C9)
	oosits (B5)		Thin Muck					morphic Pos	
Inundation	on Vis ble on Aerial	Imagery (B	7) Other (Exp	olain in Re	emarks)		FAC	-Neutral Te	st (D5)
	tained Leaves (B9)						Fros	t-Heave Hu	mmocks (D7) (LRR F)
Field Observ									
Surface Water			No Depth (inc			_			
Water Table			No Depth (inc						
Saturation Procession (includes cap		Yes	No Depth (inc	ches): 1		Wetl	land Hydrolog	y Present?	Yes No
		n gauge, mo	onitoring well, aerial p	ohotos, pi	revious ins	pections),	if available:		
	•		-	·		,-			
Remarks:									
Fyidence	of wetland h	vdrolog	v includes hig	h wata	ar tahla	soil e	aturation :	and apo	morphic position.
LVIGETICE	, or wettallull	iyai olog	y iniciaaes ilig	ii watt	, labie	, 3011 30	aturation, e	aria geol	norpriic position.

Project/Site: Kindsfater		Citv/C	ounty	Yellows	tone County	Samplin	g Date: 2	2023-06-08		
-		-	-		State: Montana		-			
Investigator(s): J Trilling						'	J			
Landform (hillslope, terrace, etc.):							Slop	e (%): 1		
Subregion (LRR): G 58A										
Soil Map Unit Name: Bm - Bew silty clay loam, 0 to 1					=					
Are climatic / hydrologic conditions on the site typical for this										
Are Vegetation, Soil, or Hydrologys					Normal Circumstances'			No 🗸		
Are Vegetation, Soil, or Hydrology r					eded, explain any answ					
SUMMARY OF FINDINGS – Attach site map								atures, etc.		
Hydrophytic Vegetation Present? Yes N								·		
Hydric Soil Present? Yes N	o			e Sampled in a Wetlar	mpled Area Wetland?					
Hydric Soil Present? Yes N Wetland Hydrology Present? Yes N	o <u> </u>		with	ın a wetiar	id? fes	NO				
Remarks:										
Recent heavy rains have increased soil satu	ıration ad	cros	s the	site. Up	land data point lo	cated no	orth of I	OP04w		
and Wetland Cell 5.										
VEGETATION – Use scientific names of plan		D		la di a da a	I Danis Tari					
Tree Stratum (Plot size: 30 ft r	Absolute % Cover				Dominance Test work Number of Dominant					
1	_				That Are OBL, FACW		0			
2					(excluding FAC-):		0	(A)		
3					Total Number of Dom		2	(5)		
4					Species Across All St	rata:	2	(B)		
Sapling/Shrub Stratum (Plot size: 15 ft r)	0	= Tot	al Cov	er	Percent of Dominant That Are OBL, FACW		0.00	(A/B)		
1. Elaeagnus angustifolia	5			FACU			0.00	(A/b)		
2.					Prevalence Index wo					
3					Total % Cover of OBL species 0			by:		
4					FACW species 0	X				
5	_					^				
Herb Stratum (Plot size: 5 ft r	5	= Iot	al Cov	er	FACU species 17		4 = 68			
1. Bromus inermis	70		/	UPL			5 = <u>375</u>			
2. Poa pratensis	7			FACU	Column Totals: 92	(A	443	(B)		
3. Convolvulus arvensis				UPL	Prevalence Inde	y = R/Δ =	4.82			
4. Cirsium arvense	5			FACU	Hydrophytic Vegeta					
5					1 - Rapid Test for			tion		
6					2 - Dominance Te	est is >50%	•			
7 8					3 - Prevalence In	dex is ≤3.0	1			
9.					4 - Morphological data in Remar	Adaptation	ns¹ (Provi	gnitroqque et		
10					Problematic Hydr		•	,		
	~7	= Tot	al Cov	ver .	<u> </u>		-			
Woody Vine Stratum (Plot size: 30 ft r) 1					¹ Indicators of hydric s be present, unless dis					
2.					Hydrophytic					
	•	= Tot	al Cov	ver .	Vegetation	' 00	No.	,		
% Bare Ground in Herb Stratum 13					Present? Y	'es	No			
Remarks:	_	_				. -				
Data point is dominated by the uplar	nd grass	s Br	omu	us inerr	nis. No evidend	e of h	ydropl	nytic		
vegetation indicators observed.										

US Army Corps of Engineers

B-31

Great Plains – Version 2.0

SOIL Sampling Point: DP04u

Profile Desc	cription: (Describe	to the depth	needed to docur	nent the i	ndicator	or confirr	n the absence	of indicators.)
Depth	Matrix			x Features				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	<u>Texture</u>	Remarks
0 - 4	10YR 3/3	100					Loam	-
4 - 12	10YR 4/1	100					Sandy Clay	Cobbly
-								
_	_							
								-
-								
¹Type: C=C	oncentration, D=De	pletion, RM=R	Reduced Matrix. CS	S=Covered	or Coate	ed Sand G	rains. ² Loc	cation: PL=Pore Lining, M=Matrix.
	Indicators: (Appli							for Problematic Hydric Soils ³ :
Histosol				Gleyed Ma			1 cm N	Muck (A9) (LRR I, J)
Histic Ep	pipedon (A2)			Redox (S5				Prairie Redox (A16) (LRR F, G, H)
Black Hi	istic (A3)		Stripped	d Matrix (S	66)		Dark S	Surface (S7) (LRR G)
	en Sulfide (A4)			Mucky Min			_ •	Plains Depressions (F16)
	d Layers (A5) (LRR		-	Gleyed Ma			•	RR H outside of MLRA 72 & 73)
	uck (A9) (LRR F, G, d Below Dark Surfa			d Matrix (F Dark Surfa	,			ed Vertic (F18) arent Material (TF2)
-	ark Surface (A12)	CE (ATT)		d Dark Su	` ,	١		Shallow Dark Surface (TF12)
l —	Mucky Mineral (S1)			Depression		,		(Explain in Remarks)
-	Mucky Peat or Peat	(S2) (LRR G,		ains Depre	. ,	16)		of hydrophytic vegetation and
5 cm Mu	ucky Peat or Peat (S	S3) (LRR F)	(ML	RA 72 & 7	73 of LRR	H)	wetlan	d hydrology must be present,
							unless	disturbed or problematic.
	Layer (if present):							
, , <u> </u>	obble bottom							
Depth (in	ches): 12						Hydric Soil	Present? Yes No
Remarks:								
No hydr	ic soil indica	tors obs	erved					
i to iiyai		1013 003	ci vca.					
HYDROLO	CV							
-	drology Indicators							
	cators (minimum of	one required;						ary Indicators (minimum of two required)
	Water (A1)		Salt Crust					face Soil Cracks (B6)
_	ater Table (A2)		Aquatic In					rsely Vegetated Concave Surface (B8)
Saturation	• ,		Hydrogen		. ,			inage Patterns (B10)
	larks (B1)		Dry-Seaso					dized Rhizospheres on Living Roots (C3
	nt Deposits (B2)		Oxidized F	•		ing Roots	. ,	vhere tilled)
Drift Dep			•	not tilled)		1)		yfish Burrows (C8)
_	at or Crust (B4)		Presence			+)		uration Visible on Aerial Imagery (C9) omorphic Position (D2)
Iron Dep	on Vis ble on Aerial	Imagony (P7)	Thin Muck Other (Exp					C-Neutral Test (D5)
	stained Leaves (B9)	,	Other (EX	naiii iii Re	illaiks)			st-Heave Hummocks (D7) (LRR F)
Field Obser								stricave ridifficons (D1) (ERRT)
		Voc Na	Depth (in	ches).				
Surface Wat Water Table			Depth (in					
							land Hudrala	y Present? Yes No
Saturation P (includes car		resN	Depth (in	cries):		wet	ianu nyurolog	y Present? Yes No
	corded Data (strear	m gauge, mon	itoring well, aerial	photos, pre	evious ins	pections),	if available:	
Remarks:								
No ovid	ongo ofs+l	ممط امدداء	rologu cha-	rucel (ام الم	m, , +l		ho profile
INO ENIG	ence of wetl	and nydr	ology obse	rvea. S	solis a	ry thro	ougnout t	пе ргопіе.

Project/Site: Kindsfater	(City/Cou	_{inty:} Y	ellows [†]	tone County	Sampling [Date: 20	023-06-08
					State: Montana			
					nge: S06 T2S R25E			
Landform (hillslope, terrace, etc.): Terrace/floodplain					=		Slope	: (%): <u>5</u>
Subregion (LRR): G 58A	Lat: 45.	69451	8		Long: -108.697848		Datum:	NAD 83
Soil Map Unit Name: Bm - Bew silty clay loam, 0 to 1								
Are climatic / hydrologic conditions on the site typical for this	s time of yea	ar? Yes	s	No	(If no, explain in R	emarks.)		
Are Vegetation, Soil, or Hydrologys					Normal Circumstances" p		es	No
Are Vegetation, Soil, or Hydrologyn	aturally prol	blematic	c?		eded, explain any answe			
SUMMARY OF FINDINGS – Attach site map	showing	samp	ling	point lo	ocations, transects	, importa	nt feat	tures, etc.
Hydric Soil Present? Wetland Hydrology Present? Yes V Yes No.	0	W	vithin	Sampled a Wetlan	nd? Yes	No		
PEM, depressional wetland. Recent heavy rallocated within Wetland Cell 5.	ains have	incre	eased	d soil s	aturation across th	e site. Sa	ample	point
VEGETATION – Use scientific names of plan	ts.							
<u>Tree Stratum</u> (Plot size: <u>30 ft r</u>) 1 2		Specie	es? <u>S</u>		Number of Dominant Sp That Are OBL, FACW, of (excluding FAC-):	pecies or FAC		(A)
3	·				Total Number of Domin Species Across All Stra			(B)
Sapling/Shrub Stratum (Plot size: 15 ft r)	0		Cover		Percent of Dominant Sp That Are OBL, FACW, o		00.00	(A/B)
2.					Prevalence Index wor			
3.					Total % Cover of:			
4					OBL species 0 FACW species 100	x 1 =		
5					FACW species 100 PAC species 0			
Herb Stratum (Plot size: 5 ft r)	0	= Total	Cover			x 4 =		
1. Alopecurus arundinaceus	100	~	F	ACW		x 5 =		
2.					Column Totals: 100	(A)	200	(B)
3					Prevalence Index	- B/A - 2	.00	
4					Hydrophytic Vegetation			
5					✓ 1 - Rapid Test for H			on
6					✓ 2 - Dominance Tes		3	
7					✓ 3 - Prevalence Inde			
8					4 - Morphological A	daptations ¹	(Provide	e supporting
9 10.					data in Remarks			,
10.	400	= Total	Cover		Problematic Hydro	ohytic Veget	tation' (E	Explain)
Woody Vine Stratum (Plot size: 30 ft r) 1					¹ Indicators of hydric soi be present, unless distu			
2					Hydrophytic			
W Boro Cround in Horb Stratum 0	0	= Total	Cover		Vegetation Present? Yes	s	No	
% Bare Ground in Herb Stratum 0 Remarks:					10.			
Data point is located in the Alopecurus arun	dinacour	domi	inant	comm	unity Evidence of	hydroph	vtio vo	anetation
includes a positive rapid test, a positive don					-	-	-	_

US Army Corps of Engineers

B-33

Great Plains – Version 2.0

SOIL Sampling Point: DP04w

Profile Desc	cription: (Describe	to the dep	oth needed to docur	ment the	indicator	or confir	m the absence	of indicators.)
Depth	Matrix			x Feature		2		
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	<u>Texture</u>	Remarks
0 - 6	10YR 3/2	100	-				Mucky Sand	Gravelly
6 - 16	5Y 4/1	98	7.5YR 5/8	2	С	М	Sandy Clay Loam	Gravels/cobbles
_							·	
								
l — -	•						-	
-								
-								
-								
1Type: C=C	oncentration D=Der	letion RM	=Reduced Matrix, CS	S=Covere	d or Coate	nd Sand G	Grains ² Lo	cation: PL=Pore Lining, M=Matrix.
			LRRs, unless other			a Garia C		for Problematic Hydric Soils ³ :
Histosol				Gleyed M				Muck (A9) (LRR I, J)
	oipedon (A2)			Redox (S				Prairie Redox (A16) (LRR F, G, H)
	istic (A3)			d Matrix (Surface (S7) (LRR G)
Hydroge	en Sulfide (A4)		Loamy	Mucky Mi	neral (F1)		High F	Plains Depressions (F16)
	d Layers (A5) (LRR			Gleyed M	. ,		(LR	R H outside of MLRA 72 & 73)
	ıck (A9) (LRR F, G,		<u></u> ✓ Deplete		,		_	ed Vertic (F18)
-	d Below Dark Surfac	e (A11)		Dark Surf				arent Material (TF2)
	ark Surface (A12)				urface (F7))		Shallow Dark Surface (TF12)
-	Mucky Mineral (S1) Mucky Peat or Peat ((S2) (I RR		Depressio	essions (F	16)		(Explain in Remarks) of hydrophytic vegetation and
	icky Peat or Peat (S				73 of LRR			d hydrology must be present,
		o, (=:::: ,	(/		disturbed or problematic.
Restrictive	Layer (if present):							·
Type:								
Depth (in	ches):						Hydric Soil	Present? Yes V No No
Remarks:							1	
Sandy mu	icky mineral ob	served i	n unner horizor	Prom	inent re	doximo	rnhic conce	entrations common within the
matrix.	icky minician ob	JCI VCG I	п аррег попис			doxiiiic	i priio corio	midulons common within the
	CV							
HYDROLO								
-	drology Indicators:			,			0 1	
		one require	d; check all that appl				·	ary Indicators (minimum of two required)
	Water (A1)		Salt Crust					face Soil Cracks (B6)
_	ater Table (A2)		Aquatic In					rsely Vegetated Concave Surface (B8)
<u>✓</u> Saturation			Hydrogen		, ,			nage Patterns (B10)
	larks (B1)		Dry-Seaso					dized Rhizospheres on Living Roots (C3)
	nt Deposits (B2)		Oxidized F			ing Roots		vhere tilled)
	posits (B3)			not tilled				yfish Burrows (C8)
_	at or Crust (B4)		Presence			+)		uration Visible on Aerial Imagery (C9)
-	posits (B5)		Thin Muck					emorphic Position (D2)
	on Vis ble on Aerial	Imagery (B	7) Other (Exp	olain in R	emarks)		· <u> </u>	C-Neutral Test (D5)
	tained Leaves (B9)						Fros	st-Heave Hummocks (D7) (LRR F)
Field Obser		,	🗸 –					
Surface Wat			No Depth (in					
Water Table			No Depth (in					
Saturation P (includes car		′es	No Depth (in	ches): <u>16</u>	<u> </u>	Wet	land Hydrolog	y Present? Yes V No No
		gauge, m	onitoring well, aerial	photos, p	revious ins	pections)	, if available:	
Remarks:								
	iter observed the s	ame eleva	ition as the sample	point wit	hin the ac	liacent c	attail marsh in	wetland cell 5. Evidence of wetland
_			saturation, geomo					
' ",	•	•	, ,			•		

Project/Site: Kindsfater	(City/Co	ounty:	Yellows	tone County	Sampling Da	te: 2023-	06-08
Applicant/Owner: MDT	•	-	-		State: Montana			
Investigator(s): J Trilling, S Weyant, K Kane		Sectio	n, Tov	wnship, Ra	nge: S06 T2S R25E			
Landform (hillslope, terrace, etc.): Terrace		Local	relief	(concave,	convex, none): Linear		Slope (%):	5
Subregion (LRR): G 58A	Lat: 45.	6934	136	•	Long: -108.69331		oatum: NA	D 83
Soil Map Unit Name: LI - Larim gravelly loam, 15 to 3								
Are climatic / hydrologic conditions on the site typical for this								
Are Vegetation, Soil, or Hydrologys					"Normal Circumstances"		No	·
Are Vegetation, Soil, or Hydrology n					eeded, explain any answe			
SUMMARY OF FINDINGS – Attach site map								s, etc.
Hydrophytic Vegetation Present? Yes No	o_ 🗸		lo the	e Sampled	LAron			
Hydric Soil Present? Yes No	o 🗸			-		No_	/	
Wetland Hydrology Present? Yes No	· <u> </u>		******	a mona	.uu			
Remarks: Upland sample point located north of DP05v	w Docon	t ha	31/1/ r	raine hav	vo increased soil s	aturation a	eroce the	cito
opiand sample point located north of DF030	W. RECEII	it iie	avyı	all is i lav	ve ilicieaseu soli sa	aturation at	C1055 tile	s site.
VEGETATION – Use scientific names of plant	ts.							
Tree Stratum (Plot size: 30 ft r	Absolute				Dominance Test work			
	% Cover				Number of Dominant S That Are OBL, FACW,	•		
1 2					(excluding FAC-):	0		(A)
3.					Total Number of Domir	nant		
4.					Species Across All Stra			(B)
Sapling/Shrub Stratum (Plot size: 15 ft r)	0	= Tota	al Cov	er	Percent of Dominant S That Are OBL, FACW,		00	(A/R)
1								(,,,,
2					Prevalence Index wor		بريا دا ساخار	
3					Total % Cover of: OBL species 0	x 1 = _		
4					FACW species 0			
5					FAC species 0			
Herb Stratum (Plot size: 5 ft r	0	= Tota	al Cov	er	FACU species 75			_
1. Elymus repens	70	v	,	FACU	UPL species 15			_
2. Agropyron cristatum	10			UPL	Column Totals: 90		375	_ (B)
3. Bromus tectorum	5			UPL		54 /1	7	
4. Poa pratensis	5			FACU	Prevalence Index Hydrophytic Vegetation	· · · · · · · · · · · · · · · · · · ·		_
5					1 - Rapid Test for I			
6					2 - Dominance Tes		sycialion	
7					3 - Prevalence Ind			
8					4 - Morphological /		Provide supi	portina
9					data in Remark	s or on a sepa	rate sheet)	
10	~~				Problematic Hydro	phytic Vegetat	tion¹ (Explai	n)
Woody Vine Stratum (Plot size: 30 ft r		= Tota			¹ Indicators of hydric so be present, unless dist			nust
1					Hydrophytic			
	_	= Tota	al Cov	er	Vegetation		~	
% Bare Ground in Herb Stratum 10 Remarks:		. 510			Present? Ye	es No	o <u> </u>	
	ام	1	⊥ - ' -	. a l a ± -	alak Nis sidal	£ I	d w a l !	:_
Elymus repens is the dominant uplan vegetation observed.	iu grass	s at	เกเร	uata p	olitic ino eviden	ce or nyc	aropnyt	IC

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B-35

Great Plains – Version 2.0

SOIL Sampling Point: DP05u

Profile Desc	ription: (Describe	to the denth	needed to docum	ent the	indicator	or confirm	the absence of	f indicators)
Depth	Matrix	io ine depli		k Feature		or commit	. The absence O	· maioators.,
(inches)	Color (moist)	%	Color (moist)	<u>k Feature</u> %	Type ¹	Loc ²	Texture	Remarks
0 - 14	10YR 4/2		5YR 4/4	10	C	M	Sandy Loam	
			<u> </u>		<u> </u>			
-								
_								
			_		· 			
		· —— -		-				
				-				
_								
¹Type: C=Co	oncentration, D=Dep	letion, RM=F	Reduced Matrix, CS	=Covere	d or Coate	ed Sand Gr	rains. ² Locat	tion: PL=Pore Lining, M=Matrix.
Hydric Soil I	ndicators: (Applic	able to all L	RRs, unless other	wise not	ed.)			or Problematic Hydric Soils ³ :
Histosol	(A1)		Sandy G	Sleyed Ma	atrix (S4)		1 cm Mu	ck (A9) (LRR I, J)
	ipedon (A2)			edox (S5				rairie Redox (A16) (LRR F, G, H)
Black His	stic (A3)		Stripped	Matrix (S	S6)		Dark Sui	rface (S7) (LRR G)
Hydroge	n Sulfide (A4)		Loamy N	Aucky Mi	neral (F1)			ins Depressions (F16)
Stratified	Layers (A5) (LRR F	=)	•	-	atrix (F2)		(LRR	H outside of MLRA 72 & 73)
	ck (A9) (LRR F, G, I			d Matrix (Vertic (F18)
	Below Dark Surfac	e (A11)		ark Surfa				ent Material (TF2)
	rk Surface (A12) lucky Mineral (S1)) Dark St Depressio	urface (F7)		allow Dark Surface (TF12) xplain in Remarks)
	lucky Milleral (31) lucky Peat or Peat (S2) (I RR G			essions (F	:16)		f hydrophytic vegetation and
	cky Peat or Peat (S				73 of LRF			nydrology must be present,
0 0 111 1010	ony rout or rout (or) (= ::::)	(,		isturbed or problematic.
Restrictive L	ayer (if present):							·
Type: Co	bble bottom							
Depth (inc	thes): 14						Hydric Soil P	resent? Yes No
Remarks:	, -		<u></u>					
	the criteria for	doplotod	matriy is mot	thic da	ta naint	doos no	at cupport a	hydrophytic vegetation
_		-	-		•	. uoes no	or support a	nydropnytic vegetation
communit	y, and is not su	pportea	by wetland nyc	arology	<u>/. </u>			
HYDROLO	GY							
Wetland Hyd	rology Indicators:							
Primary Indic	ators (minimum of o	ne required;	check all that apply	/)			Secondary	/ Indicators (minimum of two required)
Surface	Water (A1)		Salt Crust ((B11)			Surfac	ce Soil Cracks (B6)
High Wa	ter Table (A2)		Aquatic Inv	ertebrate	es (B13)			ely Vegetated Concave Surface (B8)
Saturation	on (A3)		Hydrogen S	Sulfide O	dor (C1)		Draina	age Patterns (B10)
Water M	arks (B1)		Dry-Seaso	n Water ⁻	Table (C2))	Oxidiz	red Rhizospheres on Living Roots (C3)
Sedimer	t Deposits (B2)		Oxidized R	hizosphe	eres on Liv	ing Roots ((C3) (wh	ere tilled)
Drift Dep	osits (B3)		(where n	ot tilled))		Crayfi	sh Burrows (C8)
Algal Ma	t or Crust (B4)		Presence of	of Reduce	ed Iron (C	4)	Satura	ation Visible on Aerial Imagery (C9)
Iron Dep	osits (B5)		Thin Muck	Surface	(C7)		Geom	orphic Position (D2)
Inundation	on Vis ble on Aerial I	magery (B7)	Other (Exp	lain in Re	emarks)		FAC-N	Neutral Test (D5)
Water-St	tained Leaves (B9)						Frost-	Heave Hummocks (D7) (LRR F)
Field Observ	/ations:							
Surface Water	er Present? Y	es N	o <u> </u>	ches):				
Water Table			o Pepth (inc					
Saturation Pr			o V Depth (inc				and Hydrology	Present? Yes No
(includes cap	oillary fringe)							
Describe Red	corded Data (stream	gauge, mon	itoring well, aerial p	hotos, pr	evious ins	spections),	if available:	
Remarks:								
No evide	ence of wetla	and hyd	ralaav ahsei	rved				
140 EVIUE	SHOU OF WELL	and mydi	ology obser	veu.				

Project/Site: Kindsfater		City/Co	ounty.		Sampling Date: 2023-06-08
Applicant/Owner: MDT		Oity/Oo	Junty.		State: Montana Sampling Point: DP05w
• •		Section	n Tow	nshin Ra	ange: S06 T2S R25E
					convex, none): Concave Slope (%): 1
					Long: -108.693351 Datum: NAD 83
Soil Map Unit Name: LI - Larim gravelly loam, 15 to					
Are climatic / hydrologic conditions on the site typical for					
Are Vegetation, Soil, or Hydrology	-				"Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology					eeded, explain any answers in Remarks.)
					locations, transects, important features, etc
Hydrophytic Vegetation Present? Yes				<u>-</u>	•
Hydric Soil Present? Yes	No			Sampled	
Wetland Hydrology Present? Yes	No		within	n a Wetla	nd? Yes V No No
Remarks:		ı			
PEM, depressional/slope wetland. Rec VEGETATION – Use scientific names of pla		y rair	ns ha	ave inc	creased soil saturation across the site.
	Absolute	Domi	inant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30 ft r	% Cover				Number of Dominant Species
1. Elaeagnus angustifolia				FACU	That Are OBL, FACW, or FAC
2					(excluding FAC-): I (A)
3					Total Number of Dominant Species Across All Strata: 2 (B)
Sapling/Shrub Stratum (Plot size: 15 ft r)	10	= Tota	al Cove	er	Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00 (A/B)
1					Prevalence Index worksheet:
2					Total % Cover of: Multiply by:
3					OBL species 5 x 1 = 5
4					FACW species 70 x 2 = 140
5	_	= Tota	al Cove		FAC species <u>3</u> x 3 = <u>9</u>
Herb Stratum (Plot size: 5 ft r	<u> </u>	- 10ta	ai Cove	ā1	FACU species 10 x 4 = 40
1. Phalaris arundinacea	60		<u> </u>	FACW	UPL species <u>0</u> x 5 = <u>0</u>
2. Juncus balticus	10			FACW	Column Totals: <u>88</u> (A) <u>194</u> (B)
3. Sonchus arvensis	_ 3			FAC	Prevalence Index = B/A = 2.20
4. Lycopus asper 5. Carex aurea	3			OBL	Hydrophytic Vegetation Indicators:
				OBL	1 - Rapid Test for Hydrophytic Vegetation
6					2 - Dominance Test is >50%
7 8					$\underline{\checkmark}$ 3 - Prevalence Index is ≤3.0 ¹
9					4 - Morphological Adaptations ¹ (Provide supporting
10.					data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation ¹ (Explain)
		= Tota	al Cove	er	
Woody Vine Stratum (Plot size: 30 ft r) 1					¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2.					Hydrophytic
% Bare Ground in Herb Stratum 22	0	= Tota	al Cove	er	Vegetation Present? Yes No
Remarks:					
Data point is dominated by Alopeci includes a prevalence index less th					dence of hydrophytic vegetation

US Army Corps of Engineers

B-37

Great Plains – Version 2.0

SOIL Sampling Point: DP05w

Profile Desc	ription: (Describe	to the depth	needed to docum	nent the i	ndicator	or confirm	the absence	of indicators.)
Depth	Matrix	<u>.</u>			,			
(inches)	Color (moist)	%	Color (moist)	K Features	_Type ¹	Loc ²	Texture	Remarks
0 - 8	10YR 4/1	97 7	7.5YR 4/6	3	С	М	Loamy Sand	Sandy Redox
-								
	-	· _	_					
		· —— –						
		· —— —						
-								
_			_	'				
1Type: C=Cc	oncentration, D=Dep	letion PM=P	educed Matrix CS	=Covered	d or Coate	ad Sand Gr	raine ² l oc	cation: PL=Pore Lining, M=Matrix.
	ndicators: (Applic					d Sand Gi		for Problematic Hydric Soils ³ :
Histosol				Sleyed Ma				/luck (A9) (LRR I, J)
	ipedon (A2)		✓ Sandy R	-	. ,			Prairie Redox (A16) (LRR F, G, H)
Black His				Matrix (S				Surface (S7) (LRR G)
Hydroge	n Sulfide (A4)		Loamy N	Лucky Mir	neral (F1)		High P	lains Depressions (F16)
Stratified	Layers (A5) (LRR I	=)	Loamy C	Sleyed Ma	atrix (F2)		(LR	R H outside of MLRA 72 & 73)
	ck (A9) (LRR F, G, I			d Matrix (I	,			ed Vertic (F18)
	Below Dark Surfac	e (A11)		ark Surfa	. ,			arent Material (TF2)
	rk Surface (A12)				rface (F7))		hallow Dark Surface (TF12)
-	lucky Mineral (S1) lucky Peat or Peat (S2) (I RR G		epression	essions (F	16)		(Explain in Remarks) of hydrophytic vegetation and
	cky Peat or Peat (S			•	73 of LRR	•		d hydrology must be present,
	ony i out or i out (or	o, (=,	(,		disturbed or problematic.
Restrictive L	ayer (if present):							·
Type: Co	bble bottom		<u></u>					
Depth (inc	ches): 8		<u></u>				Hydric Soil	Present? Yes V No No
Remarks:								
Dromino	nt rodovimo	rahic cor	acontration	com	mon w	ithin tl	ha candy	matrix
Promine	nt redoximoi	priic coi	icenti ations	S COIII	illoll w	/IUIIII U	ile Saliuy	matrix.
HYDROLO(GY							
	drology Indicators:							
_			abook all that apply	۸			Casanda	ary Indicators (minimum of two required)
-	ators (minimum of o	ne requirea; o						ary Indicators (minimum of two required)
	Water (A1)		Salt Crust (- (D40)			face Soil Cracks (B6)
_	ter Table (A2)		Aquatic Inv		. ,			rsely Vegetated Concave Surface (B8)
✓ Saturatio			Hydrogen S					nage Patterns (B10)
	arks (B1)		Dry-Seaso					dized Rhizospheres on Living Roots (C3) where tilled)
	t Deposits (B2) osits (B3)		Oxidized R	•		ing Roots (,
	, ,			ot tilled)		1\		yfish Burrows (C8)
_	t or Crust (B4) osits (B5)		Presence o			+)		uration Visible on Aerial Imagery (C9) morphic Position (D2)
-	on Vis ble on Aerial I	magary (P7)	Other (Exp					C-Neutral Test (D5)
	tained Leaves (B9)	iliagely (D7)	Office (Exp	iaiii iii Ke	iliaiks)			st-Heave Hummocks (D7) (LRR F)
Field Observ	, ,						1103	Serieave Hammooks (D7) (ERRT)
Surface Wate		os Na	Depth (inc	shee).				
								
Water Table			Depth (inc			_		
Saturation Pr (includes cap		es _ No	Depth (inc	ches): U		Wetla	and Hydrolog	y Present? Yes V No No
Describe Rec	corded Data (stream	gauge, moni	toring well, aerial p	hotos, pr	evious ins	pections),	if available:	
			•					
Remarks:								
Evidence	of wetland hvd	rology inc	ludes hiah wa	ter tab	le, satu	ration. d	eomorphic	position, and a positive fac-
neutral tes		3,	3		,	, 3		•

Project/Site: Kindsfater		City/Co	ounty	Yellows	tone County	Sampling	Date: 202	23-06-07
Applicant/Owner: MDT					State: Montana	Sampling	Point: DP	06u
• •		Section	n. To	wnship. Ra	nge: S06 T2S R25E			
					convex, none): Convex		Slope (%): 10
Subregion (LRR): G 58A								
Soil Map Unit Name: Bm - Bew silty clay loam, 0 to					-			
Are climatic / hydrologic conditions on the site typical for th								
Are Vegetation, Soil, or Hydrology					'Normal Circumstances" p		'es	No.
Are Vegetation, Soil, or Hydrology					eeded, explain any answe			110
SUMMARY OF FINDINGS – Attach site map								ıres, etc.
Hydrophytic Vegetation Present? Yes N						•		•
Hydric Soil Present? Yes N	10 /			e Sampled		No	~	
Hydric Soil Present? Yes N Wetland Hydrology Present? Yes N Remarks:	No <u>′</u>		with	in a Wetlar	10? fes	NO_		
			.,		7.5		•	
Upland sample point located in the upland	area wes	t of V	Vetla	and Cell	7. Recent heavy ra	ins have	increas	ed soil
saturation across the site.								
VEGETATION – Use scientific names of plan	nts.							
Tree Stratum (Plot size: 30 ft r	Absolute % Cover				Dominance Test work	sheet:		
1					Number of Dominant S That Are OBL, FACW,			
2.					(excluding FAC-):	<u>(</u>)	(A)
3.					Total Number of Domin	ant		
4					Species Across All Stra	ta: <u>3</u>	3	(B)
15 ft r	0	= Tota	al Cov	ver .	Percent of Dominant Sp			
Sapling/Shrub Stratum (Plot size: 15 ft r) 1. Elaeagnus angustifolia	5	v	,	FACU	That Are OBL, FACW,	or FAC: _(0.00	(A/B)
2. Juniperus scopulorum	- 3			1700	Prevalence Index wor	ksheet:		
3	- <u></u>				Total % Cover of:		Multiply by	<u>:</u>
4					-	x 1		
5					FACW species 0			
- 6	6	= Tota	al Cov	ver	FAC species 0	x 3	= 0	
Herb Stratum (Plot size: 5 ft r)	F0		,	FACU	FACU species 57		= 228	
1. Elymus repens 2. Bromus tectorum	- 50 30			UPL	UPL species 33 Column Totals: 90		= <u>165</u> 393	(D)
3. Elymus hispidus				OPL	Column rotals. 30	(A)	000	(B)
Convolvulus arvensis	3			UPL	Prevalence Index	$= B/A = \frac{A}{2}$	1.37	
5. Poa pratensis	2			FACU	Hydrophytic Vegetation	n Indicato	rs:	
6.					1 - Rapid Test for I		Vegetation	n
7.					2 - Dominance Tes			
8					3 - Prevalence Inde		1 (5	
9					4 - Morphological A data in Remarks	aaptations s or on a se	Provide s parate she	supporting eet)
10					Problematic Hydro	phytic Vege	etation¹ (Ex	plain)
Woody Vine Stratum (Plot size: 30 ft r	90	= Tota	al Cov	er	¹ Indicators of hydric soi			gy must
1					be present, unless distu	irbed or pro	polematic.	
2					Hydrophytic			
% Bare Ground in Herb Stratum 10	0	= Tota	al Cov	er	Vegetation Ye Ye	s	No 🔽	_
Remarks:					1			
Data point is dominated by the upla	nd arac	ede l	Elv.	mue ror	nens and Bromu	e tecto	rum N	lo
	•		∟ıyı	iius ieļ	Jens and Divillu	3 15010	ruiii. N	10
evidence of hydrophytic vegetation	observ	ed.						

US Army Corps of Engineers

B-39

Great Plains – Version 2.0

SOIL Sampling Point: DP06u

Profile Desc	ription: (Describe	to the depth ne	eded to docur	nent the i	ndicator	or confirr	n the absence	of indicators.)				
Depth	Matrix		Redo	x Features	S							
(inches)	Color (moist)	<u>%</u> (Color (moist)	%	Type ¹	Loc ²	Texture	Remark	(S			
0 - 8	7.5YR 5/2	100					Sandy Clay Loam					
8 - 18	10YR 3/2	100					Sandy Loam	Gravelly/Cobbly				
	· · · · · · · · · · · · · · · · · · ·											
							-					
-												
		·					·——	-				
	-											
	oncentration, D=Dep					d Sand G		cation: PL=Pore Lining				
Hydric Soil	Indicators: (Applic	able to all LRR	s, unless othe	rwise note	ed.)		Indicators	for Problematic Hydi	ric Soils ³ :			
Histosol	` '		Sandy (Muck (A9) (LRR I, J)				
-	oipedon (A2)			Redox (S5 d Matrix (S	,			Prairie Redox (A16) (L	RR F, G, H)			
_	stic (A3)				Surface (S7) (LRR G)	- `						
Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1)								Plains Depressions (F1	•			
Stratified Layers (A5) (LRR F) Loamy Gleyed Matrix (F2) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3)							,	RR H outside of MLRA	12 & 13)			
	d Below Dark Surfac			d Matrix (F Dark Surfa	,			ced Vertic (F18) Parent Material (TF2)				
	ark Surface (A12)	<i>~</i> (<i>∧</i> 11 <i>)</i>		d Dark Su	` ,			Shallow Dark Surface (ΓF12)			
_	fucky Mineral (S1)			Depression			-	(Explain in Remarks)	· · · - /			
	Mucky Peat or Peat ((S2) (LRR G, H)		ins Depre		16)		of hydrophytic vegetat	ion and			
	icky Peat or Peat (S		_	RA 72 & 7	73 of LRR	H)						
unless disturbed or problematic.												
Restrictive Layer (if present):												
Type:												
Depth (in	ches):						Hydric Soil	Present? Yes	No <u> </u>			
Remarks:												
No nyar	ic soil indicat	tors obser	vea.									
HYDROLO	GY											
Wetland Hy	drology Indicators:											
Primary India	cators (minimum of c	one required; ch	eck all that appl	v)			Seconda	ary Indicators (minimun	n of two required)			
	Water (A1)	•	Salt Crust					face Soil Cracks (B6)				
	iter Table (A2)		Aquatic In		s (B13)			arsely Vegetated Conca	ive Surface (B8)			
Saturation			Hydrogen					inage Patterns (B10)	(=0)			
Water M			Dry-Seaso				' <u></u> '	dized Rhizospheres on	Living Roots (C3)			
	nt Deposits (B2)		Oxidized F					vhere tilled)				
Drift Dep	. , ,		· <u></u>	not tilled)		9	. ,	yfish Burrows (C8)				
-	at or Crust (B4)		Presence	,	d Iron (C4	1)	· · · · · · · · · · · · · · · · · · ·	uration Visible on Aeria	I Imagery (C9)			
Iron Dep	• • •		Thin Muck			• /	· <u></u>	omorphic Position (D2)				
	on Vis ble on Aerial	Imagery (B7)	Other (Ex	•			' <u></u> '	C-Neutral Test (D5)				
	tained Leaves (B9)	inagory (B7)	01.101 (EX	, , , , , , , , , , , , , , , , , , ,	markoj			st-Heave Hummocks ([)7) (LRR F)			
Field Obser								(-	(
Surface Wat		'es No _	✓ Denth (in	chee).								
		es No _ es No _										
Water Table							land Deel - 1	Dunner (0 Y	N = -			
Saturation P (includes car		'es No _	Depth (in	cnes):		_ wet	iana Hyarolog	y Present? Yes	No			
	corded Data (stream	gauge, monitor	ing well, aerial	photos, pre	evious ins	pections),	, if available:					
		-	-	•		,						
Remarks:												
	_		_									
No evide	ence of wetla	and hydro	logy obse	rved.								
-												

Project/Site: Kindsfater		City/Cour	nty: Yellows	tone County	Sampling Date: 2023-06-19
Applicant/Owner: MDT			-		Sampling Point: DP06w
Investigator(s): S Weyant				nge: S06 T2S R25E	
Landform (hillslope, terrace, etc.): Depression					Slope (%): 10
					Datum: NAD 83
Soil Map Unit Name: Bm - Bew silty clay loam, 0 to 1					
Are climatic / hydrologic conditions on the site typical for thi	s time of yea	ar? Yes	No	(If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrologys					resent? Yes No
Are Vegetation, Soil, or Hydrology	naturally pro	blematic	? (If ne	eded, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site map	showing	sampli	ing point l	ocations, transects	, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: Yes N Yes N	lo		the Sampled		No
PEM, depressional wetland. Sample point locate appears to be expanding the wetland cell. Recei	_		-		_
VEGETATION – Use scientific names of plar	nts.				
Tree Stratum (Plot size: 30 ft r) 1.	% Cover	Species	nt Indicator S? Status	Dominance Test work Number of Dominant Sp That Are OBL, FACW, of Coverly lines FACW, or	pecies or FAC
2				(excluding FAC-):	(^)
34.				Total Number of Domin Species Across All Stra	_
Sapling/Shrub Stratum (Plot size: 15 ft r)	0		Cover	Percent of Dominant Sp That Are OBL, FACW, o	
1				Prevalence Index wor	ksheet:
3.					Multiply by:
4					x 1 = 11
5					x 2 = 0 x 3 = 0
Herb Stratum (Plot size: 5 ft r	0	= Total C	Cover		x 4 = 240
1. Elymus repens	40	~	FACU		x 5 = 0
2. Poa pratensis	20	·	FACU	Column Totals: 71	(A) <u>251</u> (B)
3. Typha latifolia	10		OBL	Prevalence Index	D/A 3.5/1
4. Lemna minor	_ 1		OBL	Hydrophytic Vegetation	·
5	_			1 - Rapid Test for H	
6				2 - Dominance Tes	
7				3 - Prevalence Inde	
8					Adaptations ¹ (Provide supporting
9				data in Remarks	s or on a separate sheet)
10	71	- Total C		Problematic Hydro	ohytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size: 30 ft r) 1.		= Total C		¹ Indicators of hydric soi be present, unless distu	l and wetland hydrology must irbed or problematic.
2.	^	= Total C	Cover	Hydrophytic Vegetation	a Na V
% Bare Ground in Herb Stratum 29				Present? Yes	s No
Remarks: Although the data point lacked a hydrophytic vegetati observed, and the data point is supported by wetland margins of the wetland where the boundary appears t	hydrology	(1987 CC	DE Wetland D	elineation Manual). The	
marging or the wedama where the boundary appears t	o bo expair	anig dut	to projertyet	a manaadon.	

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B-41

Great Plains – Version 2.0

SOIL Sampling Point: DP06w

Profile Desc	ription: (Describe	e to the de	pth needed to docur	ment the	indicator	or confi	rm the absence	of indicators.)			
Depth	Matrix	0,		x Feature		. 2					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks			
0 - 5	10YR 5/1	100	7.51/0.5/0				Clay Loam				
5 - 12	10YR 5/1	97	7.5YR 5/8	3	<u>C</u>	PL	Clay Loam				
12 - 16	2.5Y 4/1	95	5G 2.5/1	3	_ <u>D</u>	M	Clay Loam	Mn Concentrations			
			7.5YR 5/8	2	<u> </u>	М	Clay Loam				
							_				
-											
-											
¹Type: C=Co	oncentration, D=De	pletion, RM	I=Reduced Matrix, CS	S=Covere	ed or Coate	ed Sand (Grains. ² Loc	cation: PL=Pore Lining, M=Matrix.			
		•	I LRRs, unless other					for Problematic Hydric Soils ³ :			
Histosol	(A1)		Sandy 0	Gleyed M	atrix (S4)		1 cm N	Muck (A9) (LRR I, J)			
l —	pipedon (A2)		-	Redox (S				Prairie Redox (A16) (LRR F, G, H)			
Black Hi	` '			d Matrix (,			surface (S7) (LRR G)			
	n Sulfide (A4) Layers (A5) (LRR	E \			ineral (F1) latrix (F2)		_	lains Depressions (F16) R H outside of MLRA 72 & 73)			
	ick (A9) (LRR F, G ,	•	<u>✓</u> Deplete				,	ed Vertic (F18)			
	d Below Dark Surfa			Dark Surf				arent Material (TF2)			
· — ·	ark Surface (A12)	,			urface (F7))		hallow Dark Surface (TF12)			
Sandy M	lucky Mineral (S1)		Redox I	Depression	ons (F8)		Other	(Explain in Remarks)			
	Mucky Peat or Peat				ressions (F			of hydrophytic vegetation and			
5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H)							wetland hydrology must be present, unless disturbed or problematic.				
Restrictive I	_ayer (if present):						uniess	disturbed or problematic.			
_	zayer (ii present).										
, , <u> </u>	ches):						Hydric Soil	Present? Yes V No			
Remarks:	, <u>-</u>										
Sulfidic od	dor observed.	Promine	nt redoximorphi	ic conc	entratio	ns con	nmon within	the depleted matrix.			
								are aspired matrix			
HYDROLO	GY										
	drology Indicators										
_			ed; check all that appl	v)			Seconda	ary Indicators (minimum of two required)			
<u>✓</u> Surface		one require	Salt Crust				-	ace Soil Cracks (B6)			
	iter Table (A2)		✓ Aquatic In		es (B13)			rsely Vegetated Concave Surface (B8)			
✓ Saturation			Hydrogen					nage Patterns (B10)			
	arks (B1)				Table (C2)		· · · · · · · · · · · · · · · · · · ·	dized Rhizospheres on Living Roots (C3)			
Sedimer	nt Deposits (B2)		Oxidized F	Rhizosph	eres on Liv	ing Root	s (C3) (w	here tilled)			
Drift Dep	oosits (B3)		(where	not tilled)		Cray	fish Burrows (C8)			
✓ Algal Ma	at or Crust (B4)		Presence	of Reduc	ed Iron (C4	1)	Satu	ration Visible on Aerial Imagery (C9)			
Iron Dep	osits (B5)		Thin Muck	Surface	(C7)		<u>✔</u> Geo	morphic Position (D2)			
Inundation	on Vis ble on Aerial	Imagery (E	37) Other (Exp	olain in R	emarks)		FAC	-Neutral Test (D5)			
Water-S	tained Leaves (B9)						Fros	t-Heave Hummocks (D7) (LRR F)			
Field Obser				_	_						
Surface Water			No Depth (in			_					
Water Table			No Depth (in			_					
Saturation Pi		Yes	No Depth (in	ches): <u>0</u>		_ We	tland Hydrolog	y Present? Yes No			
		m gauge, m	nonitoring well, aerial	photos, p	revious ins	pections	s), if available:				
			,								
Remarks:											
Evidence	of wetland hvo	droloav i	ncludes surface	water	, hiah w	ater ta	ble, soil satu	ration, aquatic invertebrates			
	-		orphic position.		,		,	,,			
(=======		<i></i>									

Project/Site: Kindsfater	City/C	ounty:	Yellows	tone County	Sampling Da	te: 2023-06-08
Applicant/Owner: MDT	-	-		State: Montana		
Investigator(s): J Trilling, K Kane				nge: S06 T2S R25E		
Landform (hillslope, terrace, etc.): Flat				=		Slope (%): 10
Subregion (LRR): G 58A Lat:						
Soil Map Unit Name: Wf - Wanetta clay loam, 0 to 1 percer				=		
Are climatic / hydrologic conditions on the site typical for this time o						
Are Vegetation, Soil, or Hydrology significal				"Normal Circumstances" p		No 🗸
Are Vegetation, Soil, or Hydrology naturally	-			eeded, explain any answe		
SUMMARY OF FINDINGS – Attach site map show			•	•		•
Hydrophytic Vegetation Present? Yes No		ام داد	e Sampled	I Avon		
Hydric Soil Present? Yes No			-		No	/
Wetland Hydrology Present? Yes No		*******	ii a watiai	100		
Remarks:						
Upland sample point located east of Wetland Cel	I 9. Rec	ent h	eavy ra	ins have increased	soil satura	ation across
the site.						
VEGETATION – Use scientific names of plants.						
00 ft	ute Dom			Dominance Test work		
	ver Spe			Number of Dominant S That Are OBL, FACW,		
2				(excluding FAC-):	0	(A)
3.				Total Number of Domir	ant	
4.				Species Across All Stra		(B)
0	= Tota	al Cov	er	Percent of Dominant S	pecies	_
Sapling/Shrub Stratum (Plot size: 15 ft r)				That Are OBL, FACW,	or FAC: 0.0	00 (A/B)
1				Prevalence Index wor	ksheet:	
3				Total % Cover of:	Mu	ultiply by:
4					x 1 = _	
5.				FACW species 0		
0	= Tota	al Cov	er	FAC species 0		
Herb Stratum (Plot size: 5 ft r) 1. Medicago lupulina 35		/	FACU	FACU species 38 UPL species 34		
2. Bromus tectorum 15			UPL	Column Totals: 72		
3. Convolvulus arvensis 10	<u> </u>		UPL			
4. Erodium cicutarium 5			UPL	Prevalence Index		
5. Sporobolus cryptandrus 3			FACU	Hydrophytic Vegetation		
6. Alyssum alyssoides 3			UPL	1 - Rapid Test for I		egetation
7. Tragopogon dubius 1			UPL	2 - Dominance Tes 3 - Prevalence Inde		
8				4 - Morphological A		Provide supporting
9				data in Remark	s or on a sepa	rate sheet)
10				Problematic Hydro	phytic Vegetat	tion ¹ (Explain)
Woody Vine Stratum (Plot size: 30 ft r	= Tota	al Cov	er	¹ Indicators of hydric so		
1				be present, unless distr	urbed of proble	emalic.
2				Hydrophytic Vegetation		
% Bare Ground in Herb Stratum 28	= Tota	al Cov	er	Present? Ye	s N	o_ <u> </u>
Remarks:				1		
Vegetation community at the data point i	s com	nrie	ed of d	listurhance orie	nted unla	and snecies
including Medicago lupulina and Bromus		-			a apic	a opoolos

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B-43

Great Plains – Version 2.0

SOIL Sampling Point: DP07u

Profile Desc Depth	cription: (Describe Matrix	to the depth		ment the i		or confir	m the absence of in	aicators.)
(inches)	Color (moist)	%	Color (moist)	<u>%</u>	<u>Type¹</u>	Loc ²	Texture	Remarks
0 - 13	10YR 4/2	100					Clay Loam	
		- <u> </u>		_		-		
					·	-	·	
	-	· — — —						
	-					-		
							<u> </u>	
-								
	-					-		
1Typo: C=C	oncentration, D=Dep	Notion DM-Da	oducod Matrix C	S=Covered	d or Coate	nd Sand C	Praine ² Location	: PL=Pore Lining, M=Matrix.
	Indicators: (Applic					su Sanu C		Problematic Hydric Soils ³ :
Histosol			Sandy				1 cm Muck	-
_	pipedon (A2)			Redox (S5				e Redox (A16) (LRR F, G, H)
	istic (A3)			d Matrix (S				e (S7) (LRR G)
Hydroge	en Sulfide (A4)		Loamy	Mucky Mir	neral (F1)		High Plains	Depressions (F16)
	d Layers (A5) (LRR l		-	Gleyed Ma			,	outside of MLRA 72 & 73)
	uck (A9) (LRR F, G ,			ed Matrix (,		Reduced Ve	` '
	d Below Dark Surfac ark Surface (A12)	e (A11)		Dark Surfa ed Dark Su	, ,	١		Material (TF2) w Dark Surface (TF12)
· 	Mucky Mineral (S1)			Depressio		,		ain in Remarks)
	Mucky Peat or Peat (S2) (LRR G, H		ains Depre	. ,	16)		drophytic vegetation and
	ucky Peat or Peat (S	. , .	· — ·	RA 72 &	•	•		rology must be present,
							unless distu	rbed or problematic.
	Layer (if present):							
Type: Co			_					
Depth (in	_{ches):} <u>13</u>		_				Hydric Soil Pres	ent? Yes No
Remarks:								
No hvdr	ic soil indicat	tors obse	erved.					
HYDROLO	GY							
Wetland Hy	drology Indicators:							
	cators (minimum of c		heck all that app	ly)			Secondary Inc	dicators (minimum of two required)
Surface	Water (A1)		Salt Crust	t (B11)			Surface S	Soil Cracks (B6)
· · · · · · · · · · · · · · · · · · ·	ater Table (A2)		Aquatic In		s (B13)			Vegetated Concave Surface (B8)
Saturati			Hydrogen					Patterns (B10)
Water M	larks (B1)		Dry-Seas	on Water 1	Γable (C2))	Oxidized	Rhizospheres on Living Roots (C3)
Sedime	nt Deposits (B2)		Oxidized	Rhizosphe	res on Liv	ing Roots	(C3) (where	tilled)
Drift De	posits (B3)		(where	not tilled)			Crayfish	Burrows (C8)
Algal Ma	at or Crust (B4)		Presence	of Reduce	ed Iron (C	4)	Saturatio	n Visible on Aerial Imagery (C9)
Iron Dep	posits (B5)		Thin Mucl	k Surface ((C7)		Geomorp	hic Position (D2)
Inundati	on Vis ble on Aerial	Imagery (B7)	Other (Ex	plain in Re	emarks)		FAC-Neu	tral Test (D5)
Water-S	Stained Leaves (B9)						Frost-Hea	ave Hummocks (D7) (LRR F)
Field Obser								
Surface Wat			Depth (ir					
Water Table	Present? Y	'es No	Depth (in	nches):				
Saturation P		'es No	Depth (ir	nches):		Wet	land Hydrology Pre	sent? Yes No
	pillary fringe) corded Data (stream	gauge, monit	oring well, aerial	photos, pr	evious ins	pections)	, if available:	
	(= = = ===	3 3 /	9 , 					
Remarks:								
No evid	ence of wetla	and hydr	alagy ahee	rved				
140 EVIU	CITOC OF WELL	and myun	ciogy obse	,ı v Cu.				

Project/Site: Kindsfater		Citv/Co	ountv	Yellows	tone County	Sampling	a Date:	2023-	06-08
Applicant/Owner: MDT		-	-		State: Montana		-		
• •					nge: S06 T2S R25E		,		
Landform (hillslope, terrace, etc.): Depression						'e	Slo	ope (%):	34
Subregion (LRR): G 58A									
Soil Map Unit Name: Wf - Wanetta clay loam, 0 to 1					-				
Are climatic / hydrologic conditions on the site typical for thi					_			•	
Are Vegetation, Soil, or Hydrology	-				'Normal Circumstances"			NI	
Are Vegetation, Soil, or Hydrology					eeded, explain any answe			14	
SUMMARY OF FINDINGS – Attach site map								eature	s, etc.
Hydrophytic Vegetation Present? Yes N Hydric Soil Present? Yes N	No			e Sampled in a Wetlar		, No			
Wetland Hydrology Present? Yes N Remarks:	No		With	ili a vvetiai	iu! Tes	NO		_	
PSS, depressional wetland. Data point loca	ted on th	e ea	st Ar	nd of We	tland Cell 9 Recer	nt heavy	, rains	have	
increased soil saturation across the site.	tou on th	c cu.	JC 01	14 01 110	tiaria dell'o. Necci	reneavy	rums	riave	
VEGETATION – Use scientific names of plan	nts.								
Tree Stratum (Plot size: 30 ft r	Absolute % Cover				Dominance Test work				
1					Number of Dominant S That Are OBL, FACW, (excluding FAC-):		3		(A)
3.					Total Number of Domir		1		(D)
4					Species Across All Stra	жа:	4		(B)
Sapling/Shrub Stratum (Plot size: 15 ft r	0	= Tota	al Cov	er	Percent of Dominant S That Are OBL, FACW,		75.00)	(Δ/R)
1. Salix exigua	60			FACW				·	(700)
2. Elaeagnus angustifolia	5			FACU	Prevalence Index wor				
3					Total % Cover of: OBL species 3	x			
4					FACW species 70				
5					· · · · · ·	^			
Herb Stratum (Plot size: 5 ft r)	65	= Tota	al Cov	er	FACU species 15				_
1. Cirsium arvense	7	·	/	FACU		x :			_
2. Poa palustris	5	·	<u></u>	FACW	Column Totals: 88	(A)) 20	3	(B)
3. Epilobium ciliatum	5		_	FACW		5.4	2 21		
4. Schoenoplectus pungens	3			OBL	Prevalence Index Hydrophytic Vegetati				_
5. Elymus trachycaulus	3			FACU	1 - Rapid Test for			tation	
6					✓ 2 - Dominance Tes		_	lalion	
7					✓ 3 - Prevalence Ind				
8					4 - Morphological			vide sup	portina
9					data in Remark				po9
10.					Problematic Hydro	phytic Ve	getation	1 (Expla	in)
Woody Vine Stratum (Plot size: 30 ft r)		= Tota			¹ Indicators of hydric so be present, unless dist				nust
2					Hydrophytic				
% Bare Ground in Herb Stratum _77	_	= Tota	al Cov	er	Vegetation	es	No _		
Remarks:					1				
Salix exigua is the dominant species	at this	data	a po	oint. Ev	idence of hydro	phytic	; vea	etatio	on
includes a positive dominance test a			•		-		•		

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B-45

Great Plains – Version 2.0

SOIL Sampling Point: DP07w

Profile Desc	cription: (Describe	to the depth ne	eded to docur	nent the i	ndicator	or confirm	n the absence	of indicators	5.)
Depth	Matrix			x Features	-	Loc ²	Taratras		Damarka
(inches)	Color (moist)	_ <u>%</u> _ C 100	olor (moist)	%	Type'	LOC	Clavil com	Crovelly	Remarks
0 - 14	10YR 5/1						Clay Loam	Gravelly	
-									
-									
								-	
17					0	-1.01.0	21 -		and Links A. Markets
	oncentration, D=Deplicators: (Applicators)					a Sana G			ore Lining, M=Matrix. atic Hydric Soils³:
Histosol		Sable to all Little	Sandy (/luck (A9) (LR	•
l —	oipedon (A2)		-	Redox (S5					(A16) (LRR F, G, H)
-	stic (A3)		-	d Matrix (S				Surface (S7) (
	en Sulfide (A4)		-	Mucky Mir			_	lains Depress	
	d Layers (A5) (LRR		-	Gleyed Ma			•		of MLRA 72 & 73)
	ıck (A9) (LRR F, G, d Below Dark Surfac		<u>✓</u> Deplete	d Matrix (I Dark Surfa				ed Vertic (F18 arent Material	,
-	ark Surface (A12)	Se (ATT)		d Dark Su					Surface (TF12)
	Mucky Mineral (S1)			Depression	٠,		-	(Explain in Re	
	Mucky Peat or Peat		High Pla	ains Depre	essions (F	16)	³ Indicators	of hydrophyti	c vegetation and
5 cm Mu	icky Peat or Peat (S	33) (LRR F)	(ML	RA 72 & 7	73 of LRR	H)			nust be present,
Postrictive I	Layer (if present):						unless	disturbed or	problematic.
Type: Co									
, , <u> </u>	ches): 14						Hydric Soil	Present?	Yes
Remarks:							Tiyuno oon	T TOOCHT.	
Deblete	d matrix.								
HYDROLO	CV								
	drology Indicators		al all that anni)			Cocondo	n Indicators	(minimum of two required)
-	cators (minimum of	one required; che						-	(minimum of two required)
✓ Surface	ater Table (A2)		Salt Crust Aquatic In		c (P13)			face Soil Crac	ed Concave Surface (B8)
Saturation	, ,		Hydrogen					inage Pattern	
	larks (B1)		Dry-Seaso					-	heres on Living Roots (C3)
	nt Deposits (B2)		Oxidized F			ng Roots		here tilled)	
	posits (B3)			not tilled)		-		yfish Burrows	(C8)
_	at or Crust (B4)		Presence			·)			on Aerial Imagery (C9)
Iron Dep	oosits (B5)		Thin Muck	Surface (C7)		<u>✓</u> Geo	morphic Posi	tion (D2)
Inundati	on Vis ble on Aerial	Imagery (B7)	Other (Exp	olain in Re	marks)		·	C-Neutral Test	, ,
	tained Leaves (B9)						Fros	st-Heave Hum	nmocks (D7) (LRR F)
Field Obser		.,		10					
Surface Wat		Yes No _				-			
Water Table		Yes No _				_		_	4
Saturation P (includes car		res 🔽 No _	Depth (in	ches): U		_ Wetl	land Hydrolog	y Present?	Yes No
	corded Data (strean	n gauge, monitor	ing well, aerial	photos, pro	evious ins	pections),	if available:		
Remarks:									
Fyidence	of wetland hyd	drology inclu	des surface	water	high w	ater tah	ole soil satu	ıration de	omorphic position,
	n on aerial imag				_	ator tab	,, Jon Jatt	auon, ge	omorpino position,
Satul atiOl	ı on acılal ililaç	jery, and a p	ositive rac-	neutial	icot.				

Project/Site: Kindsfater	(Citv/C	ountv	. Yellows	tone County	Sampling	Date: 20	23-06-08
Applicant/Owner: MDT		-	-		State: Montana		·	
• •	,				nge: S06 T2S R25E			
					convex, none): Linear		Slope	(%): 3
Subregion (LRR): G 58A								
Soil Map Unit Name: Wf - Wanetta clay loam, 0 to 1					NWI classific			
Are climatic / hydrologic conditions on the site typical for thi								
Are Vegetation, Soil, or Hydrology					"Normal Circumstances"		⁄es	No 🗸
Are Vegetation, Soil, or Hydrology					eeded, explain any answe			
SUMMARY OF FINDINGS – Attach site map								ures, etc.
Hydrophytic Vegetation Present? Yes N						<u> </u>		·
Hydric Soil Present? Yes N	10 ~			e Sampled			~	
Hydric Soil Present? Yes N Wetland Hydrology Present? Yes N	10 🔽		with	in a Wetlar	nd? Yes	No _		
Remarks:								
Upland sample point located north of Wetla	and Cell 1	3. R	ecer	nt heavy	rains have increase	ed soil s	aturatio	n across
the site.								
VEGETATION – Use scientific names of plan	nts.							
Tree Stratum (Plot size: 30 ft r	Absolute % Cover				Dominance Test work	sheet:		
1					Number of Dominant S That Are OBL, FACW,			
2.					(excluding FAC-):	-	0	(A)
3.					Total Number of Domir	ant		
4					Species Across All Stra	ıta:	2	(B)
Sapling/Shrub Stratum (Plot size: 15 ft r	0	= Tot	al Cov	ver	Percent of Dominant S That Are OBL, FACW,		0.00	(A/B)
1					Prevalence Index wor	ksheet:		
2					Total % Cover of:		Multiply b	y:
3 4					OBL species 0	x 1	= 0	
5					FACW species 0	x 2	= 0	
	•	= Tot	al Cov	ver	l	x 3		
Herb Stratum (Plot size: 5 ft r				LIDI	FACU species 10		= 40	
1. Bromus tectorum	- <u>20</u> 15			UPL UPL			= 205	
2. Convolvulus arvensis 3. Sporobolus cryptandrus	10			FACU	Column Totals: 51	(A)	243	(B)
4. Agropyron cristatum	- 10 2			UPL	Prevalence Index	= B/A = _	4.80	
5. Sporobolus cryptandrus	2			UPL	Hydrophytic Vegetation	on Indicate	ors:	
6. Alyssum alyssoides	1	-		UPL	1 - Rapid Test for I		c Vegetatio	n
7. Erodium cicutarium	1			UPL	2 - Dominance Tes			
8					3 - Prevalence Ind		o ¹ (Dravida	ou no ortina
9					data in Remark	s or on a s	eparate sh	eet)
10	-4				Problematic Hydro	phytic Veg	etation¹ (E	xplain)
Woody Vine Stratum (Plot size: 30 ft r		= Tot	al Cov	ver	¹ Indicators of hydric so be present, unless dist			
1. 2.					Hydrophytic			
	_	= Tot	al Cov	ver	Vegetation		.,	
% Bare Ground in Herb Stratum 49			J. 50		Present? Ye	s	No	
Remarks:								
Dominant vegetation at this sample	point in	clu	des	the upl	and species Bro	omus ir	nermis	and
Convolvulus arvensis. No evidence	of hydro	ph	ytic	vegeta	tion observed.			

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B-47

Great Plains – Version 2.0

SOIL Sampling Point: DP08u

Depth	Matrix			x Feature:			n the absence of ir	
(inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type ¹	Loc ²	Texture	Remarks
0 - 12	10YR 4/2	100					Clay Loam	
-								
		., . <u> </u>				-		
		. <u> </u>						
-								
		- 		-				
1 _{Turnou} C=C	anaontration D=Don	Notice DM-De	duced Matrix C		d or Coots	d Cond C	roine ² l continu	o. Di -Doro Lining M-Motriy
	oncentration, D=Dep Indicators: (Applic					a Sana G		n: PL=Pore Lining, M=Matrix. Problematic Hydric Soils ³ :
Histosol		able to all Livi	Sandy ((A9) (LRR I, J)
_	pipedon (A2)			Redox (S5				ie Redox (A16) (LRR F, G, H)
	istic (A3)		-	d Matrix (S				ce (S7) (LRR G)
_	en Sulfide (A4)		Loamy	Mucky Mir	neral (F1)			Depressions (F16)
Stratified	d Layers (A5) (LRR I	F)	Loamy	Gleyed Ma	atrix (F2)		(LRR H	outside of MLRA 72 & 73)
	uck (A9) (LRR F, G,			d Matrix (I	•		Reduced V	` ,
	d Below Dark Surfac	e (A11)	·	Dark Surfa	. ,			: Material (TF2)
· 	ark Surface (A12)			d Dark Su Depressio				ow Dark Surface (TF12) ain in Remarks)
	Mucky Mineral (S1) Mucky Peat or Peat (S2) (I RR G H		ains Depre	. ,	16)		/drophytic vegetation and
	ucky Peat or Peat (S			RA 72 & 7	•	•		frology must be present,
_	, , , , , , , , , , , , , , , , , , , ,	- / (`			,	-	urbed or problematic.
Restrictive I	Layer (if present):							
Type: Co	obbles		_					
Depth (inc	ches): 12		=				Hydric Soil Pres	sent? Yes No
Remarks:								
No hydr	ic soil indicat	tore obea	rved					
140 Hyan	ic 30ii iiiaica	1013 0030	ved.					
HYDROLO	GY							
	drology Indicators:							
_		one required: ch	eck all that appl	v)			Secondary In	dicators (minimum of two required)
Primary Indic	cators (minimum of c	one required; ch					·	dicators (minimum of two required)
Primary Indic	cators (minimum of c	one required; ch	Salt Crust	(B11)	s (B13)		Surface	Soil Cracks (B6)
Primary Indic Surface High Wa	cators (minimum of c Water (A1) ater Table (A2)	one required; ch	Salt Crust	(B11) vertebrate			Surface Sparsely	Soil Cracks (B6) Vegetated Concave Surface (B8)
Primary Indic Surface High Wa Saturation	water (A1) ater Table (A2) on (A3)	one required; ch	Salt Crust Aquatic In Hydrogen	(B11) vertebrate Sulfide Od	dor (C1)		Surface Sparsely Drainage	Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10)
Primary Indic Surface High Wa Saturatio Water M	cators (minimum of co Water (A1) ater Table (A2) on (A3) farks (B1)	one required; ch	Salt Crust Aquatic In Hydrogen Dry-Seaso	(B11) vertebrate Sulfide Oo on Water T	dor (C1) able (C2)		Surface Sparsely Drainage Oxidized	Soil Cracks (B6) Vegetated Concave Surface (B8)
Primary Indic Surface High Wa Saturatio Water M	cators (minimum of co Water (A1) ater Table (A2) on (A3) darks (B1) nt Deposits (B2)	one required; ch	Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F	(B11) vertebrate Sulfide Oo on Water T	dor (C1) able (C2)		Surface Sparsely Drainage Oxidized (C3) (where	Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C3
Primary Indic Surface High Wa Saturatio Water M Sedimer Drift Dep	cators (minimum of co Water (A1) ater Table (A2) on (A3) darks (B1) nt Deposits (B2)	one required; ch	Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F	(B11) vertebrate Sulfide Od on Water T Rhizosphe not tilled)	dor (C1) able (C2) res on Liv	ing Roots	Surface Sparsely Drainage Oxidized (C3) (where Crayfish	Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C3
Primary Indic Surface High Wa Saturatio Water M Sedimer Drift Dep	cators (minimum of co Water (A1) ater Table (A2) on (A3) flarks (B1) ont Deposits (B2) posits (B3) at or Crust (B4)	one required; ch	Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F	(B11) vertebrate Sulfide Oc on Water T Rhizosphe not tilled) of Reduce	dor (C1) Table (C2) res on Liv and Iron (C4	ing Roots	Surface Sparsely Drainage Oxidized (C3) (where Crayfish Saturation	Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C3 tilled) Burrows (C8)
Primary Indic Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep	cators (minimum of co Water (A1) ater Table (A2) on (A3) flarks (B1) ont Deposits (B2) posits (B3) at or Crust (B4)		Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where	(B11) vertebrate Sulfide Oco on Water T Rhizosphe not tilled) of Reduce a Surface (dor (C1) Table (C2) res on Liv and Iron (C4 C7)	ing Roots	Surface Sparsely Drainage Oxidized (C3) (where Crayfish Saturatio Geomory	Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C3 tilled) Burrows (C8) Visible on Aerial Imagery (C9)
Primary Indic Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep	water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5)		Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where Presence Thin Muck	(B11) vertebrate Sulfide Oco on Water T Rhizosphe not tilled) of Reduce a Surface (dor (C1) Table (C2) res on Liv and Iron (C4 C7)	ing Roots	Surface Sparsely Drainage Oxidized (C3) (where Crayfish Saturation Geomory FAC-Net	Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C3 Hilled) Burrows (C8) In Visible on Aerial Imagery (C9) Chic Position (D2)
Primary Indic Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep	cators (minimum of co Water (A1) ater Table (A2) on (A3) flarks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Vis ble on Aerial I stained Leaves (B9)		Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where Presence Thin Muck	(B11) vertebrate Sulfide Oco on Water T Rhizosphe not tilled) of Reduce a Surface (dor (C1) Table (C2) res on Liv and Iron (C4 C7)	ing Roots	Surface Sparsely Drainage Oxidized (C3) (where Crayfish Saturation Geomory FAC-Net	Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C3 Hilled) Burrows (C8) No Visible on Aerial Imagery (C9) Phic Position (D2)
Primary Indic Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatic Water-S	cators (minimum of co Water (A1) ater Table (A2) on (A3) flarks (B1) ont Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Vis ble on Aerial I stained Leaves (B9)	lmagery (B7)	Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where Presence Thin Muck	(B11) vertebrate Sulfide Oc on Water T Rhizosphe not tilled) of Reduce a Surface (blain in Re	dor (C1) Table (C2) res on Liv d Iron (C4 C7) marks)	Roots	Surface Sparsely Drainage Oxidized (C3) (where Crayfish Saturation Geomory FAC-Net	Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C3 Hilled) Burrows (C8) No Visible on Aerial Imagery (C9) Phic Position (D2)
Primary Indic Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatic Water-S	cators (minimum of control of con	Imagery (B7) 'es No _	Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where Presence Thin Muck Other (Exp	(B11) vertebrate Sulfide Oc on Water T Rhizosphe not tilled) of Reduce Surface (blain in Re	dor (C1) Table (C2) res on Liv d Iron (C4 C7) marks)	ing Roots	Surface Sparsely Drainage Oxidized (C3) (where Crayfish Saturation Geomory FAC-Net	Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C3 Hilled) Burrows (C8) No Visible on Aerial Imagery (C9) Phic Position (D2)
Primary Indic Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Water-S Field Observ Surface Water	cators (minimum of control of con	Imagery (B7) 'es No _ 'es No _	Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where Presence Thin Muck Other (Exp	(B11) vertebrate Sulfide Oco on Water T Rhizosphe not tilled) of Reduce c Surface (plain in Re ches): ches):	dor (C1) Table (C2) res on Liv d Iron (C4 C7) marks)	Roots	Surface Sparsely Drainage Oxidized (C3) (where Crayfish Saturatio Geomory FAC-Net Frost-He	Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C3 Hilled) Burrows (C8) No Visible on Aerial Imagery (C9) Phic Position (D2)
Primary Indic Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Water-S Field Observ Surface Water Vater Table Saturation Pr (includes cap	cators (minimum of control of con	Imagery (B7) 'es No _ 'es No _ 'es No _	Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where Presence Thin Muck Other (Exp	(B11) vertebrate Sulfide Oco on Water T Rhizosphe not tilled) of Reduce c Surface (blain in Re ches): ches): ches):	dor (C1) Table (C2) res on Liv d Iron (C4 C7) marks)	H) Wet	Surface Sparsely Drainage Oxidized (C3) (where Crayfish Saturatio Geomory FAC-Nee Frost-He	Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C3 Hilled) Burrows (C8) In Visible on Aerial Imagery (C9) In Continuous (D2) In Ital Test (D5) In Vegetate (D5) In Vegetate (D7) (LRR F)
Primary Indic Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Water-S Field Observ Surface Water Vater Table Saturation Pr (includes cap	cators (minimum of control of con	Imagery (B7) 'es No _ 'es No _ 'es No _	Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where Presence Thin Muck Other (Exp	(B11) vertebrate Sulfide Oco on Water T Rhizosphe not tilled) of Reduce c Surface (blain in Re ches): ches): ches):	dor (C1) Table (C2) res on Liv d Iron (C4 C7) marks)	H) Wet	Surface Sparsely Drainage Oxidized (C3) (where Crayfish Saturatio Geomory FAC-Nee Frost-He	Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C3 Hilled) Burrows (C8) In Visible on Aerial Imagery (C9) In Continuous (D2) In Ital Test (D5) In Vegetate (D5) In Vegetate (D7) (LRR F)
Primary Indic Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Water-S Field Observ Surface Water Vater Table Saturation Pr (includes cap	cators (minimum of control of con	Imagery (B7) 'es No _ 'es No _ 'es No _	Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where Presence Thin Muck Other (Exp	(B11) vertebrate Sulfide Oco on Water T Rhizosphe not tilled) of Reduce c Surface (blain in Re ches): ches): ches):	dor (C1) Table (C2) res on Liv d Iron (C4 C7) marks)	H) Wet	Surface Sparsely Drainage Oxidized (C3) (where Crayfish Saturatio Geomory FAC-Nee Frost-He	Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C3 Hilled) Burrows (C8) In Visible on Aerial Imagery (C9) In Continuous (D2) In Ital Test (D5) In Vegetate (D5) In Vegetate (D7) (LRR F)
Primary Indic Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Water-S Field Obsert Surface Water Vater Table Saturation Pr (includes cap Describe Rec	cators (minimum of control of control of cators (minimum of control of cators (Mater Table (A2)) and (A3) are the Deposits (B2) and the Deposits (B3) are the Countrol of cators (B4) are the Countrol of cators (B5) and the Countrol of cators (B5) are the	Imagery (B7) 'es No _ 'es No _ 'es No _ i gauge, monito	Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where Presence Thin Muck Other (Exp Depth (in Depth (in ring well, aerial	(B11) vertebrate Sulfide Oc on Water T Rhizosphe not tilled) of Reduce Surface (clain in Re ches): ches): photos, pri	dor (C1) Table (C2) res on Liv d Iron (C4 C7) marks)	H) Wet	Surface Sparsely Drainage Oxidized (C3) (where Crayfish Saturatio Geomory FAC-Nee Frost-He	Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C3 Hilled) Burrows (C8) In Visible on Aerial Imagery (C9) In Continuous (D2) In Ital Test (D5) In Vegetate (D5) In Vegetate (D7) (LRR F)
Primary Indic Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Water-S Field Obsert Surface Water Vater Table Saturation Pr (includes cap Describe Rec	cators (minimum of control of con	Imagery (B7) 'es No _ 'es No _ 'es No _ i gauge, monito	Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where Presence Thin Muck Other (Exp Depth (in Depth (in ring well, aerial	(B11) vertebrate Sulfide Oc on Water T Rhizosphe not tilled) of Reduce Surface (clain in Re ches): ches): photos, pri	dor (C1) Table (C2) res on Liv d Iron (C4 C7) marks)	H) Wet	Surface Sparsely Drainage Oxidized (C3) (where Crayfish Saturatio Geomory FAC-Nee Frost-He	Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C3 Hilled) Burrows (C8) In Visible on Aerial Imagery (C9) In Continuous (D2) In Ital Test (D5) In Vegetate (D5) In Vegetate (D7) (LRR F)

Project/Site: Kindsfater		City/Co	nuntv.	Yellows	tone County	Sa	amnling Dat	e· 2023	-06-08
Applicant/Owner: MDT		-	-		State: Mo				
					nge: S06 T2S F		ampining i on		
Landform (hillslope, terrace, etc.): Depression								Slone (%)	. 5
Subregion (LRR): G 58A									
									10 00
Soil Map Unit Name: Wf - Wanetta clay loam, 0 to 1 p					_			appeu	
Are climatic / hydrologic conditions on the site typical for this	s time of yea	ar? Ye	es						
Are Vegetation, Soil, or Hydrologys	ignificantly	disturb	ed?	Are '	"Normal Circumsta	ances" pres	sent? Yes	١	lo
Are Vegetation, Soil, or Hydrologyn	aturally pro	blema	tic?	(If ne	eeded, explain any	answers i	n Remarks.)	
SUMMARY OF FINDINGS - Attach site map	showing	sam	pling	g point l	ocations, trar	sects, ir	mportant	feature	es, etc.
Hydrophytic Vegetation Present? Yes No	•								
Hydric Soil Present? Yes V	0			e Sampled		./			
Wetland Hydrology Present?	0		withi	n a Wetlar	nd? Ye	es	No		
Remarks:	' <u></u>	I							
PSS, depressional wetland. Data point locat	ed at the	nor	th er	nd of We	etland Cell 13	Recent	heavy ra	ains hav	/e
increased soil saturation across the site.			0.						
VEGETATION – Use scientific names of plant	ts.								
	Absolute	Dom	inant	Indicator	Dominance Te	st workshe	eet:		
Tree Stratum (Plot size: 30 ft r	% Cover				Number of Dom	ninant Spec	ies		
1. Elaeagnus angustifolia	10			FACU	That Are OBL,		AC 2		(4)
2. Populus deltoides	2			FAC	(excluding FAC	-).	<u>-</u>		(A)
3					Total Number of		_		(D)
4					Species Across	All Strata:	<u>5</u>		(B)
Sapling/Shrub Stratum (Plot size: 15 ft r	12	= Tota	l Cov	er	Percent of Dom		ies	00	(4.5)
1. Salix exigua	80	,	,	FACW	That Are OBL,	FACW, or F	-AC: 40.	00	(A/B)
2		-			Prevalence Inc	lex worksh	neet:		
3.					Total % Co	ver of:	Mul	tiply by:	
4					OBL species	3	x 1 = <u>3</u>	3	
5.	·	-			FACW species				
	80	= Tota	al Cov	er	FAC species				_
Herb Stratum (Plot size: 5 ft r)					FACU species				
1. Bromus inermis	5			UPL	UPL species		x5=_		
2. Convolvulus arvensis	5			UPL	Column Totals:	105	(A) _ _	259	(B)
3. Schoenoplectus pungens	3			OBL	Prevalenc	e Index =	B/A = 2.4	7	
4					Hydrophytic V				
5					1 - Rapid T	_			
6					2 - Domina	-		9-1-11-11	
7					✓ 3 - Prevale				
8					4 - Morpho			rovide su	porting
9							on a separ		
10.	40				Problemati	c Hydrophy	tic Vegetati	on¹ (Expla	ain)
Woody Vine Stratum (Plot size: 30 ft r		= Tota			¹ Indicators of hybe present, unle				must
1							*		
2	•	= Tota	ıl Cov		Hydrophytic Vegetation				
% Bare Ground in Herb Stratum 87		- 1018	ıı UUV	CI	Present?	Yes _	No		
Remarks:					1				
The dominant vegetation at this data	noint i	اد د	aliv	exidua	in the shru	h etrat	a Fyida	ence o	ıf
	-			_					•
hydrophytic vegetation includes a pr	evaien	ce ii	ıae	x iess 1	ınan or equ	ai to 3.	U.		

US Army Corps of Engineers

B-49

Great Plains – Version 2.0

SOIL Sampling Point: DP08w

Drofile Dece	ription: (Describe	to the dent	needed to door	ont the	indicator	or confirm	the absence	of indicators)
		to the depti				or confirm	i the absence	of indicators.)
Depth (inches)	Matrix Color (moist)	%	Color (moist)	<u>Feature</u> %	s Type ¹	Loc ²	Texture	Remarks
0 - 16	10YR 5/1		10YR 6/1	2	C	M	Clay Loam	Depleted matrix
	1011(3/1		10 110 0/1			141	Oldy Lodin	Depleted matrix
-								
	•	· -						
		· —— -		-				
		·						
		·						
-								
¹Type: C=Co	oncentration, D=Dep	letion. RM=F	Reduced Matrix. CS	=Covered	d or Coate	ed Sand Gr	ains. ² Loc	cation: PL=Pore Lining, M=Matrix.
	ndicators: (Applic					ou ouriu or		for Problematic Hydric Soils ³ :
Histosol				leyed Ma				Muck (A9) (LRR I, J)
	pipedon (A2)			edox (S5				Prairie Redox (A16) (LRR F, G, H)
Black Hi			-	Matrix (S				Surface (S7) (LRR G)
Hydroge	n Sulfide (A4)		Loamy N	lucky Mir	neral (F1)		High F	Plains Depressions (F16)
Stratified	l Layers (A5) (LRR F	=)	Loamy C	Sleyed Ma	atrix (F2)		(LF	RR H outside of MLRA 72 & 73)
1 cm Mu	ck (A9) (LRR F, G, I	H)	<u></u> ✓ Depleted	d Matrix (F3)		Reduc	ed Vertic (F18)
-	Below Dark Surface	e (A11)		ark Surfa	, ,			arent Material (TF2)
	ark Surface (A12)				urface (F7))	-	Shallow Dark Surface (TF12)
	lucky Mineral (S1)	CO) // DD C		epressio		:40\		(Explain in Remarks)
	flucky Peat or Peat (cky Peat or Peat (S				essions (F 73 of LRR			of hydrophytic vegetation and dhydrology must be present,
5 CITI WILL	cky real of real (3)	b) (LKK F)	(IVILI	\A /2 &	73 OI LKN	м п)		disturbed or problematic.
Restrictive L	ayer (if present):						1	adictarbod of problemade.
Type: Co								
Depth (inc							Hydric Soil	Present? Yes V No No
Remarks:	Jiles)						Tryunc oon	1103cm: 103 NO
Faint red	doximorphic	concent	trations few	withir	n the d	leplete	d matrix.	
HYDROLO	GY							
Wetland Hyd	drology Indicators:							
-	ators (minimum of o	ne required:	check all that apply	<i>(</i>)			Seconda	ary Indicators (minimum of two required)
	Water (A1)	110 10quilou,	Salt Crust (·	face Soil Cracks (B6)
	ter Table (A2)		Aquatic Inv	. ,	s (B13)			rsely Vegetated Concave Surface (B8)
✓ Saturation	` ,		Hydrogen S		, ,			inage Patterns (B10)
	arks (B1)		Dry-Season		, ,			dized Rhizospheres on Living Roots (C3)
	it Deposits (B2)		Oxidized R				·	/here tilled)
	oosits (B3)		(where n	•		ing recots (. ,	yfish Burrows (C8)
	it or Crust (B4)		Presence o			1)		uration Visible on Aerial Imagery (C9)
_	osits (B5)		Thin Muck			*)		emorphic Position (D2)
-	on Vis ble on Aerial I	magery (B7)						C-Neutral Test (D5)
	tained Leaves (B9)	magery (Dr)	Outer (EXP	iaiii iii ike	ziriarito)		·	st-Heave Hummocks (D7) (LRR F)
Field Observ								Strieure Hammeone (B1) (Entit 1)
Surface Water		es N	o Depth (inc	hes).				
			o Depth (inc			_		
Water Table						— 	and Usalests	v Bracont2 Voc V
Saturation Pr (includes cap		es <u> </u>	o Depth (inc	nes): <u>U</u>		vvetla	ana nyarolog	y Present? Yes V No No
Describe Red	corded Data (stream	gauge, mon	itoring well, aerial p	hotos, pr	evious ins	spections),	if available:	
Remarks:								
	.	la al !		:1	_ 4		l	
Evidence	e or wetland	nyarolo	gy includes	SOII S	aturati	ion and	ı geomor	phic position.

Project/Site: Kindsfater	(Citv/C	ountv:	Yellows	tone County	Sampling [_{Date:} 20	23-06-08
		-			State: Montana			
					nge: S06 T2S R25E	oupg .	······	
Landform (hillslope, terrace, etc.):							Slone	(%)· 10
Subregion (LRR): G 58A								
Soil Map Unit Name: Wf - Wanetta clay loam, 0 to 1 p					=			
•					NWI classific		Mappe	<u>u</u>
Are climatic / hydrologic conditions on the site typical for this	-							
Are Vegetation, Soil, or Hydrologys	ignificantly	disturk	ped?	Are "	'Normal Circumstances" p	resent? Ye	es	_ No
Are Vegetation, Soil, or Hydrologyn	aturally pro	blema	itic?	(If ne	eeded, explain any answe	rs in Remar	ks.)	
SUMMARY OF FINDINGS - Attach site map	showing	sam	plin	g point l	ocations, transects	, importa	nt feat	ures, etc.
Hydrophytic Vegetation Present? Yes No	· ·							
				e Sampled			~	
Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No	· ·		with	in a Wetlar	1a? Yes	No		
Remarks:		ı						
Upland data point located west of Wetland	Cell 14. F	Rece	nt he	eavy rair	ns have increased s	oil satur	ation a	cross
the site.				-				
VEGETATION – Use scientific names of plant	ts.							
20.4	Absolute			Indicator	Dominance Test work	sheet:		
	% Cover				Number of Dominant Sp			
1					That Are OBL, FACW, (excluding FAC-):	or FAC 0)	(A)
2						_		(//)
3					Total Number of Domin Species Across All Stra		<u> </u>	(B)
4		T-4	-1.0			_	-	(D)
Sapling/Shrub Stratum (Plot size: 15 ft r)	0	= 1 Ota	al Cov	er er	Percent of Dominant Sp That Are OBL, FACW, of		0.00	(A/B)
1					mat Are ODE, I AOW, t	лтдо. <u>«</u>		(A/D)
2.					Prevalence Index wor			
3					Total % Cover of:		Multiply b	
4.						x 1 =		
5					FACW species 0			
E ##	0	= Tota	al Cov	ver	FAC species 0 FACU species 2	x 3 =		
Herb Stratum (Plot size: 5 ft r) 1. Convolvulus arvensis	25		,	UPL	· ·	x 4 = x 5 =		
2. Bromus japonicus	10		<u></u>	UPL	Column Totals: 49			(B)
3. Nassella viridula	7			UPL	Column Totals	(^)		(D)
Bromus tectorum	3			UPL	Prevalence Index	= B/A = 4	.96	
5. Poa compressa	2			FACU	Hydrophytic Vegetation	n Indicator	rs:	
6. Bromus inermis	2			UPL	1 - Rapid Test for H	lydrophytic	Vegetatio	on
7					2 - Dominance Tes			
8					3 - Prevalence Inde			
9.					4 - Morphological A data in Remarks	daptations ¹	(Provide	supporting
10.					Problematic Hydro			,
20.5	49	= Tota	al Cov	er er				
Woody Vine Stratum (Plot size: 30 ft r					¹ Indicators of hydric soil be present, unless distu			
1							Diomatio.	
2	_	_			Hydrophytic Vegetation			
% Bare Ground in Herb Stratum 51	0	= Tota	al Cov	er	Present? Yes	s	No <u> </u>	
Remarks:								
Upland vegetation at this data point	ie dami	nat	94 h	N Con	volvulus arvonci	c and D	romii	c
						o aliu D	oronnu	3
japonicus. No evidence of hydrophyt	ic vege	etati	on (observ	ed.			

US Army Corps of Engineers

B-51

Great Plains – Version 2.0

SOIL Sampling Point: DP09u

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

Depth (inches)	Color (moist)	<u></u> % 0	Color (moist)	<u>x Features</u> %	Type ¹	Loc ²	Texture	Remarks
0 - 12	10YR 4/2	100			.,,,,		Clay Loam	Nomano
<u> </u>	10111 4/2						Oldy Loani	
	-							
-								
				· ——				
-								
¹Type: C=Co	oncentration, D=Dep	oletion RM=Rec	luced Matrix CS	S=Covered	nr Coate	d Sand Gr	rains ² I ocatio	on: PL=Pore Lining, M=Matrix.
	ndicators: (Applic					a cana ci		Problematic Hydric Soils ³ :
Histosol			•	Sleyed Ma	•			k (A9) (LRR I, J)
· 	pipedon (A2)			Redox (S5)				irie Redox (A16) (LRR F, G, H)
Black Hi				Matrix (S				ace (S7) (LRR G)
	n Sulfide (A4)			Mucky Min				s Depressions (F16)
Stratified	Layers (A5) (LRR	F)	Loamy	Gleyed Ma	atrix (F2)		(LRR F	l outside of MLRA 72 & 73)
	ck (A9) (LRR F, G,			d Matrix (F	,			Vertic (F18)
	Below Dark Surfac	ce (A11)		Dark Surfa				nt Material (TF2)
	ark Surface (A12)			d Dark Su			-	low Dark Surface (TF12)
	lucky Mineral (S1)	(00) (LDD 0 LL)		Depression	. ,	40)		olain in Remarks)
	Mucky Peat or Peat		-	ains Depre				hydrophytic vegetation and
5 CIII IVIU	cky Peat or Peat (S	3) (LKK F)	(IVIL	RA 72 & 7	3 OI LKK	. П)	-	drology must be present, turbed or problematic.
Restrictive I	_ayer (if present):						uniess dis	turbed of problematic.
	bble bottom							
Depth (inc							Ukadaia Cail Baa	No. V
	nes). <u>12</u>						Hydric Soil Pre	esent? Yes No
Remarks:								
No hydri	c soil indica	tors obser	ved.					
•								
HYDROLO	GY							
	drology Indicators:							
			aak all that anni				Cacandanil	ndicators (minimum of two required)
	ators (minimum of o	one required, cri						ndicators (minimum of two required)
	Water (A1)		Salt Crust	` '	(D.4.0)			e Soil Cracks (B6)
<u> </u>	ter Table (A2)		Aquatic In		,			y Vegetated Concave Surface (B8)
Saturation	` ,		Hydrogen					ge Patterns (B10)
	arks (B1)		Dry-Seaso					d Rhizospheres on Living Roots (C3)
	t Deposits (B2)		Oxidized F		res on Liv	ing Roots		re tilled)
	oosits (B3)			not tilled)	(0.		 ,	n Burrows (C8)
_	t or Crust (B4)		Presence			1)		ion Visible on Aerial Imagery (C9)
	osits (B5)	I (D.7)	Thin Muck					rphic Position (D2)
	on Vis ble on Aerial	Imagery (B7)	Other (Exp	olain in Re	marks)			eutral Test (D5)
	tained Leaves (B9)						Frost-H	eave Hummocks (D7) (LRR F)
Field Observ								
Surface Water		'es No _						
Water Table		'es No _						
Saturation P		'es No _	Depth (in	ches):		Wetla	and Hydrology Pr	resent? Yes No
(includes cap	oillary fringe) corded Data (stream	n dauge monito	ing well serial	nhotos pre	evioue ine	nections)	if available:	
POSCING I/C	Solucu Dala (sileali	. gauge, monito	my won, acrial	onotos, pre	C 11003 1115	podiona),	n avaliable.	
Donardia								
Remarks:								
No evide	ence of wetla	and hydro	laav ahee	ryod				
		ai i	IOGY ODSE	ıveu.				
		and my and	logy obse	iveu.				
				iveu.				

Project/Site: Kindsfater	(City/County	Yellows	tone County	Sampling Date: 2023-0	6-08
Applicant/Owner: MDT			_	State: Montana	Sampling Point: DP09w	
• •				nge: S06 T2S R25E		
Landform (hillslope, terrace, etc.): Depression					Slone (%): 2	2
Subregion (LRR): G 58A			•	·		
				=		
Soil Map Unit Name: Wf - Wanetta clay loam, 0 to 1						
Are climatic / hydrologic conditions on the site typical for thi	-					
Are Vegetation, Soil, or Hydrology	significantly of	disturbed?	Are "	Normal Circumstances" pr	resent? Yes No	
Are Vegetation, Soil, or Hydrology	naturally prol	blematic?	(If ne	eded, explain any answer	s in Remarks.)	
SUMMARY OF FINDINGS - Attach site map	showing	samplin	g point l	ocations, transects,	important features,	, etc.
Hydrophytic Vegetation Present? Yes N	Jo					
Hydric Soil Present? Yes	10		e Sampled		.,	
Wetland Hydrology Present? Yes N	lo	with	in a Wetlar	nd? Yes	No	
Remarks:						
PSS, depressional wetland. Data point loca	ted at the	e west er	nd of We	tland Cell 14. Recen	t heavy rains have	
increased soil saturation across the site.						
VEGETATION – Use scientific names of plan	nts.					
Tree Stratum (Plot size: 30 ft r		Dominant		Dominance Test works	heet:	
1. Populus deltoides	% Cover 15		FAC	Number of Dominant Sp That Are OBL, FACW, o		
2. Elaeagnus angustifolia				(excluding FAC-):		(A)
3				Total Number of Domina Species Across All Strat		(B)
T	20	= Total Cov	/or			,
Sapling/Shrub Stratum (Plot size: 15 ft r		- Total Co	/CI	Percent of Dominant Sp That Are OBL, FACW, o		(A/B)
1. Salix exigua	35		FACW			()
2				Prevalence Index work		
3				Total % Cover of:		
4					x 1 = 15	
5				·	x 2 = 70	
	35	= Total Cov	ver .	FAC species 15 FACU species 7	x 3 = 45	
Herb Stratum (Plot size: 5 ft r 1. Schoenoplectus pungens	15	~	OBL	UPL species 10		
2. Bromus inermis	10		UPL	Column Totals: 82		(B)
3. Cirsium arvense	2		FACU	Column rotals. <u>62</u>	(A) <u>200</u>	(D)
			1 ACO	Prevalence Index	= B/A = 2.54	
4				Hydrophytic Vegetatio	n Indicators:	
5				1 - Rapid Test for H	ydrophytic Vegetation	
6				✓ 2 - Dominance Test	is >50%	
8				✓ 3 - Prevalence Inde:	x is ≤3.0 ¹	
9.				4 - Morphological A	daptations ¹ (Provide suppo	orting
10.					or on a separate sheet)	`
		= Total Cov	/er	Problematic Hydrop	hytic Vegetation ¹ (Explain))
Woody Vine Stratum (Plot size: 30 ft r					and wetland hydrology mu	ust
1				be present, unless distu	bed or problematic.	
2				Hydrophytic		
W Born Oranged in 11 1 21 1 72	0	= Total Cov	/er	Vegetation Present? Yes	No	
% Bare Ground in Herb Stratum 73 Remarks:				103		
		_		.		
Salix exigua in the shrub stata is the do		=		=		

US Army Corps of Engineers

B-53

Great Plains – Version 2.0

SOIL Sampling Point: DP09w

Depth	cription: (Describe Matrix	to the depth		ment the l		or contil	in the absence of	muidaturs.)
(inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type ¹	Loc ²	Texture	Remarks
0 - 16	10YR 5/1	100					Clay	
-					_			
						· 	<u> </u>	
				_				
	-							
						· <u></u>		
-								
_								
	-							_
1- 0.0							2	
	oncentration, D=Dep Indicators: (Applic					ed Sand (ion: PL=Pore Lining, M=Matrix. r Problematic Hydric Soils ³ :
-		able to all Li						· · · · · · · · · · · · · · · · · · ·
Histosol	pipedon (A2)		Sandy	Gleyed Ma Redox (S5				ck (A9) (LRR I, J) airie Redox (A16) (LRR F, G, H)
	istic (A3)		-	d Matrix (S				face (S7) (LRR G)
_	en Sulfide (A4)		Mucky Mir	,			ns Depressions (F16)	
	d Layers (A5) (LRR l	F)		Gleyed Ma	, ,		_	H outside of MLRA 72 & 73)
	uck (A9) (LRR F, G ,		<u></u> ✓ Deplete		,			Vertic (F18)
	d Below Dark Surfac	e (A11)	·	Dark Surfa	, ,			ent Material (TF2)
	ark Surface (A12)			ed Dark Su)		llow Dark Surface (TF12)
-	Mucky Mineral (S1) Mucky Peat or Peat ((S2) (I DD C		Depressio ains Depre	. ,	16)		plain in Remarks) hydrophytic vegetation and
	ucky Peat or Peat (S			RA 72 & 7				ydrology must be present,
0 0111 1110	dony i cut of i cut (o	o) (L itti)	(1012		70 OI LIKI	\ 11)		sturbed or problematic.
Restrictive	Layer (if present):							·
Type: Co	obbles							
Depth (in	ches): 16						Hydric Soil Pr	resent? Yes V No
Remarks:								
Donloto	d moetris, elec	oru od						
Deplete	d matrix obs	erved.						
UVDBOLO	.0.							
HYDROLO								
_	drology Indicators:							
	cators (minimum of c	one required;		•			-	Indicators (minimum of two required)
	Water (A1)		Salt Crust					e Soil Cracks (B6)
_	ater Table (A2)		Aquatic Ir					ely Vegetated Concave Surface (B8)
<u>✓</u> Saturati			Hydrogen					ge Patterns (B10)
	larks (B1)		Dry-Seas					ed Rhizospheres on Living Roots (C3)
·	nt Deposits (B2)		Oxidized			ing Roots		ere tilled)
	posits (B3)			not tilled)			•	sh Burrows (C8)
_	at or Crust (B4)		Presence		•	4)		tion Visible on Aerial Imagery (C9)
Iron Dep		. (57)	Thin Mucl					orphic Position (D2)
	on Vis ble on Aerial	Imagery (B7)	Other (Ex	plain in Re	emarks)			leutral Test (D5)
	Stained Leaves (B9)						Frost-F	Heave Hummocks (D7) (LRR F)
Field Obser		/ ··	.	-1 \				
Surface Wat			Depth (ir					
Water Table			Depth (ir					
Saturation P	resent? Y pillary fringe)	es V No	Depth (ir	iches): 0		We	tland Hydrology P	Present? Yes No
Describe Re	corded Data (stream	n gauge, moni	itoring well, aerial	photos, pr	evious ins	spections), if available:	
	•	-	-	,				
Remarks:								
Fyidence	e of wetland h	vdrology	includes bid	ıh wate	er table	satıı	ration and de	eomorphic position.
_ 1.301100	. J. 11 J. G. G. II	, a. c.ogy		,		, Jacai	and go	on or principolition.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Kindsfater		Citv/C	ounty	Yellows	tone County	Sampl	ing Date	2023-	.06-08
Applicant/Owner: MDT		-	-		State: Mont		-		
• •					nge: S06 T2S R2		J		
					convex, none): Line		S	lope (%):	0
Subregion (LRR): G 58A	Lat: 45.	6948	387		Long: -108.689	932	Da	tum: NA	D 83
Soil Map Unit Name: LI - Larim gravelly loam, 15 to 3	35 percent	slop	es		NWI cla	assification: <u>I</u>	Not Ma	pped	
Are climatic / hydrologic conditions on the site typical for th	is time of yea	ar? Y	es	No	(If no, explain	n in Remarks	.)		
Are Vegetation, Soil, or Hydrology					Normal Circumstan			N	o 🗸
Are Vegetation, Soil, or Hydrology					eded, explain any a				
SUMMARY OF FINDINGS - Attach site map				g point l	ocations, trans	ects, impo	ortant 1	feature	s, etc.
Hydrophytic Vegetation Present? YesN	No 🗸								
Hydric Soil Present? Yes N	No V			e Sampled in a Wetlar		N			
Hydric Soil Present? Yes N Wetland Hydrology Present? Yes N	No		with	ın a vvetiai	ia? res	N	<u> </u>		
Remarks:									
Upland data point on hillside north and upg	radient o	f DP	10w	. Recent	heavy rains ha	ve increas	sed so	il satur	ation
across the site.									
VEGETATION – Use scientific names of plan									
Tree Stratum (Plot size: _30 ft r)	Absolute % Cover				Dominance Test				
1. Elaeagnus angustifolia				FACU	Number of Domina That Are OBL, FA		•		
2					(excluding FAC-):		0		(A)
3					Total Number of D		2		
4					Species Across A	ll Strata:	2		(B)
Sapling/Shrub Stratum (Plot size: 15 ft r)	5			er er	Percent of Domina That Are OBL, FA		0.00)	(A/B)
1					Prevalence Index	worksheet:			
2				-	Total % Cove	r of:	Multi	iply by:	_
3 4						<u> </u>			
5					FACW species 0				
_	•	= Tot	al Cov	ver	FAC species 0) 'F	x 3 = 0	00	_
Herb Stratum (Plot size: 5 ft r)	G.F.		,	FACU	FACU species 7		x 4 = 3		_
1. Elymus repens 2. Poa compressa	_ <u>65</u> 5			FACU	UPL species 5 Column Totals: 8	<u>; </u>			— (D)
3. Bromus inermis	- 5			UPL	Column Totals.	(A) <u>J</u>		(B)
4 Bromus tectorum	3			<u> </u>	Prevalence			i	_
5.					Hydrophytic Veg				
6.					1 - Rapid Tes	-	-	etation	
7.					2 - Dominanc				
8					3 - Prevalence				
9					4 - Morpholog data in Re	marks or on a			
10					Problematic H	Hydrophytic V	egetatio	n¹ (Expla	in)
Woody Vine Stratum (Plot size: 30 ft r			al Cov	er er	¹ Indicators of hydr be present, unless				nust
1							•		
2	•	= Tota	al Cov	er	Hydrophytic Vegetation			J	
% Bare Ground in Herb Stratum 22					Present?	Yes	_ No		
Remarks:		_	_						
Vegetation at this data point is dom	inated b	у Е	lym	us repe	ens. No evide	ence of h	nydro	phytic	3
vegetation observed.									

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B-55

Great Plains – Version 2.0

SOIL Sampling Point: DP10u

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

Depth (inches)	Color (moist)	% Co	Redox Features lor (moist) % Type ¹ L	.oc ² Texture	Domarko
(inches) 0 - 8	10YR 3/3		lor (moist) % Type L	.oc ² <u>Texture</u> Sandy Loam	Remarks Cobbles
<u> </u>	1011 3/3	100		Januy Luaili	CODDIES
					
-					
¹Type: C=Co	oncentration D=Denle	etion RM=Redu	ced Matrix, CS=Covered or Coated Sa	and Grains ² Loo	cation: PL=Pore Lining, M=Matrix.
			unless otherwise noted.)		for Problematic Hydric Soils ³ :
Histosol			Sandy Gleyed Matrix (S4)		Muck (A9) (LRR I, J)
	oipedon (A2)		Sandy Redox (S5)		Prairie Redox (A16) (LRR F, G, H)
	istic (A3)		Stripped Matrix (S6)		Surface (S7) (LRR G)
Hydroge	en Sulfide (A4)		Loamy Mucky Mineral (F1)		Plains Depressions (F16)
Stratified	d Layers (A5) (LRR F)		Loamy Gleyed Matrix (F2)	(LR	RR H outside of MLRA 72 & 73)
1 cm Mu	ıck (A9) (LRR F, G, H))	Depleted Matrix (F3)	Reduc	ed Vertic (F18)
	d Below Dark Surface	(A11)	Redox Dark Surface (F6)		arent Material (TF2)
	ark Surface (A12)		Depleted Dark Surface (F7)		Shallow Dark Surface (TF12)
-	Mucky Mineral (S1)	2) /L DD (2 LL)	Redox Depressions (F8)		(Explain in Remarks)
	Mucky Peat or Peat (S: ucky Peat or Peat (S3)		High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)		of hydrophytic vegetation and dhydrology must be present,
5 CIII IVIU	icky real of real (33)	(LKK F)	(WILKA 12 & 13 OI LKK H)		d flydrology must be present, statistically disturbed or problematic.
Restrictive I	Layer (if present):			unicoo	distance of problematic.
	obble bottom				
Depth (inc	_			Hydric Soil	Present? Yes No
	Cries). <u>-</u>			Hydric 30ii	rieseiit: iesiio
Remarks:					
No hydri	ic soil indicato	ors observ	red.		
HYDROLO	GY				
Wetland Hy	drology Indicators:				
-					
-		e required: chec	ok all that anniv)	Seconda	any Indicators (minimum of two required)
	cators (minimum of one	e required; chec			ary Indicators (minimum of two required)
	cators (minimum of one Water (A1)	e required; ched	Salt Crust (B11)	Sur	face Soil Cracks (B6)
High Wa	cators (minimum of one Water (A1) ater Table (A2)	e required; ched - -	Salt Crust (B11) Aquatic Invertebrates (B13)	Suri	face Soil Cracks (B6) rrsely Vegetated Concave Surface (B8)
High Wa	cators (minimum of one Water (A1) ater Table (A2) on (A3)	e required; ched - - -	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	Suri Spa Dra	face Soil Cracks (B6) ursely Vegetated Concave Surface (B8) inage Patterns (B10)
High Wa Saturation Water M	cators (minimum of one Water (A1) ater Table (A2) on (A3) larks (B1)	e required; ched - - - -	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2)	Suri Spa Dra Oxio	face Soil Cracks (B6) Irsely Vegetated Concave Surface (B8) Inage Patterns (B10) Idized Rhizospheres on Living Roots (C3)
High Wa Saturation Water M Sedimer	cators (minimum of one Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2)	e required; ched - - - - -	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living	Suri Spa Dra Oxid Roots (C3) (w	face Soil Cracks (B6) ursely Vegetated Concave Surface (B8) inage Patterns (B10) dized Rhizospheres on Living Roots (C3) u/here tilled)
High Wa Saturatio Water M Sedimer Drift Dep	cators (minimum of one Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) oosits (B3)	e required; ched - - - - -	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living I	Suri Spa Dra Oxio Roots (C3) (w Cra	face Soil Cracks (B6) rrsely Vegetated Concave Surface (B8) inage Patterns (B10) dized Rhizospheres on Living Roots (C3) where tilled) yfish Burrows (C8)
High Wa Saturatic Water M Sedimer Drift Dep Algal Ma	cators (minimum of one Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4)	e required; ched - - - - -	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living I (where not tilled) Presence of Reduced Iron (C4)	Suri Spa Dra Oxic Roots (C3)	face Soil Cracks (B6) resely Vegetated Concave Surface (B8) inage Patterns (B10) dized Rhizospheres on Living Roots (C3) where tilled) yfish Burrows (C8) uration Visible on Aerial Imagery (C9)
High Wa Saturatio Water M Sedimer Drift Dep Algal Ma	cators (minimum of one Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5)	- - - - -	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living I (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7)	Suri Spa Oxio Roots (C3)	face Soil Cracks (B6) preely Vegetated Concave Surface (B8) prinage Patterns (B10) prinage Rhizospheres on Living Roots (C3) prinage tilled) prinage tilled) prinage (C8) prinage (C9) prinage (C9) prinage (C9)
High Wa Saturation Water M Sedimer Drift Dep Algal Ma Iron Dep	cators (minimum of one Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Vis ble on Aerial Im	- - - - -	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living I (where not tilled) Presence of Reduced Iron (C4)	Suri Spa Oxio Roots (C3)	face Soil Cracks (B6) proceedings of the control of
High Wa Saturation Water M Sedimer Drift Dep Algal Ma Iron Dep Inundation Water-S	cators (minimum of one Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Vis ble on Aerial Im tained Leaves (B9)	- - - - -	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living I (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7)	Suri Spa Oxio Roots (C3)	face Soil Cracks (B6) preely Vegetated Concave Surface (B8) prinage Patterns (B10) prinage Rhizospheres on Living Roots (C3) prinage tilled) prinage tilled) prinage (C8) prinage (C9) prinage (C9) prinage (C9)
High Wa Saturation Water Model Sedimer Drift Dep Algal Ma Iron Dep Inundation Water-S Field Observators	cators (minimum of one Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Vis ble on Aerial Im tained Leaves (B9) vations:	- - - - - nagery (B7)	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living I (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks)	Suri Spa Oxio Roots (C3)	face Soil Cracks (B6) proceedings of the control of
High Wa Saturation Water Model Sedimer Drift Dep Algal Ma Iron Dep Inundation Water-S Field Observa	cators (minimum of one Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Vis ble on Aerial Imitained Leaves (B9) vations: er Present? Yes		Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living I (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks)	Suri Spa Oxio Roots (C3)	face Soil Cracks (B6) proceedings of the control of
High Wa Saturation Water M Sedimer Drift Dep Algal Ma Iron Dep Inundation Water-S Field Obsert Surface Water	cators (minimum of one Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Vis ble on Aerial Imitained Leaves (B9) vations: er Present? Yes	agery (B7)s Nos	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living I (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks)	Suri Spa Dra Oxio Roots (C3) (w Cra Sati Gec FAC	face Soil Cracks (B6) preely Vegetated Concave Surface (B8) prinage Patterns (B10) dized Rhizospheres on Living Roots (C3) prinage tilled) prish Burrows (C8) puration Visible on Aerial Imagery (C9) purorphic Position (D2) C-Neutral Test (D5) pst-Heave Hummocks (D7) (LRR F)
High Wa Saturation Water M Sedimer Drift Dep Algal Ma Iron Dep Inundation Water-S Field Obsert Surface Water Saturation Per	cators (minimum of one Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Vis ble on Aerial Imitained Leaves (B9) vations: er Present? Present? Yes resent? Yes	agery (B7)s Nos	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living I (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks)	Suri Spa Dra Oxio Roots (C3) (w Cra Sati Gec FAC	face Soil Cracks (B6) proceedings of the control of
High Wa Saturation Water M Sedimer Drift Dep Algal Ma Iron Dep Inundation Water-S Field Obsert Surface Water Water Table Saturation Per (includes cap	cators (minimum of one Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Vis ble on Aerial Imitained Leaves (B9) vations: er Present? Present? Yes resent? Yes pillary fringe)	nagery (B7) s No s No s No	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living I (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks)	Suri Spa Dra Oxio Roots (C3) (w Cra Sati Geo FAC Fros	face Soil Cracks (B6) preely Vegetated Concave Surface (B8) prinage Patterns (B10) dized Rhizospheres on Living Roots (C3) prinage tilled) prish Burrows (C8) puration Visible on Aerial Imagery (C9) purorphic Position (D2) C-Neutral Test (D5) pst-Heave Hummocks (D7) (LRR F)
High Wa Saturation Water M Sedimer Drift Dep Algal Ma Iron Dep Inundation Water-S Field Obsert Surface Water Water Table Saturation Per (includes cap	cators (minimum of one Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Vis ble on Aerial Imitained Leaves (B9) vations: er Present? Present? Yes resent? Yes pillary fringe)	nagery (B7) s No s No s No	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living I (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks)	Suri Spa Dra Oxio Roots (C3) (w Cra Sati Geo FAC Fros	face Soil Cracks (B6) preely Vegetated Concave Surface (B8) prinage Patterns (B10) dized Rhizospheres on Living Roots (C3) prinage tilled) prish Burrows (C8) puration Visible on Aerial Imagery (C9) purorphic Position (D2) C-Neutral Test (D5) pst-Heave Hummocks (D7) (LRR F)
High Wa Saturation Water M Sedimer Drift Dep Algal Ma Iron Dep Inundation Water-S Field Obsert Surface Water Water Table Saturation Pe (includes cap Describe Rec	cators (minimum of one Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Vis ble on Aerial Imitained Leaves (B9) vations: er Present? Present? Yes resent? Yes pillary fringe)	nagery (B7) s No s No s No	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living I (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks)	Suri Spa Dra Oxio Roots (C3) (w Cra Sati Geo FAC Fros	face Soil Cracks (B6) preely Vegetated Concave Surface (B8) prinage Patterns (B10) dized Rhizospheres on Living Roots (C3) prinage tilled) prish Burrows (C8) puration Visible on Aerial Imagery (C9) purorphic Position (D2) C-Neutral Test (D5) pst-Heave Hummocks (D7) (LRR F)
High Wa Saturation Water M Sedimer Drift Dep Algal Ma Iron Dep Inundation Water-S Field Obsert Surface Water Water Table Saturation Per (includes cap	cators (minimum of one Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Vis ble on Aerial Imitained Leaves (B9) vations: er Present? Present? Yes resent? Yes pillary fringe)	nagery (B7) s No s No s No	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living I (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): Depth (inches):	Suri Spa Dra Oxio Roots (C3) (w Cra Sati Geo FAC Fros	face Soil Cracks (B6) preely Vegetated Concave Surface (B8) prinage Patterns (B10) dized Rhizospheres on Living Roots (C3) prinage tilled) prish Burrows (C8) puration Visible on Aerial Imagery (C9) purorphic Position (D2) C-Neutral Test (D5) pst-Heave Hummocks (D7) (LRR F)
High Wa Saturation Water M Sedimer Drift Dep Algal Ma Iron Dep Inundation Water-S Field Obsert Surface Water Water Table Saturation Pr (includes cap Describe Rec	cators (minimum of one Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Vis ble on Aerial Im tained Leaves (B9) vations: er Present? Yes Present? Yes corded Data (stream g	s NosNogauge, monitoring	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living I (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): Depth (inches): Depth (inches):	Surf Spa Spa Dra Oxic Roots (C3) (w Cra Sati Gec FAC Fros Wetland Hydrolog	face Soil Cracks (B6) preely Vegetated Concave Surface (B8) prinage Patterns (B10) dized Rhizospheres on Living Roots (C3) prinage tilled) prish Burrows (C8) puration Visible on Aerial Imagery (C9) purorphic Position (D2) C-Neutral Test (D5) pst-Heave Hummocks (D7) (LRR F)
High Wa Saturation Water M Sedimer Drift Dep Algal Ma Iron Dep Inundation Water-S Field Obsert Surface Water Water Table Saturation Pr (includes cap Describe Rec	cators (minimum of one Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Vis ble on Aerial Im tained Leaves (B9) vations: er Present? Yes Present? Yes corded Data (stream g	s NosNogauge, monitoring	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living I (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): Depth (inches): Depth (inches):	Surf Spa Spa Dra Oxic Roots (C3) (w Cra Sati Gec FAC Fros Wetland Hydrolog	face Soil Cracks (B6) Irsely Vegetated Concave Surface (B8) Inage Patterns (B10) dized Rhizospheres on Living Roots (C3) Inhere tilled) If the provided of

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Kindsfater	(City/County	, Yellows	tone County	Sampling Date:	2023-06-08
Applicant/Owner: MDT		only/ oddine,	/·	State: Montana		
• •		Section To	ownship Ra	nge: S06 T2S R25E		
				convex, none): Linear	Slor	ne (%): 15
Subregion (LRR): G 58A						
Soil Map Unit Name: LI - Larim gravelly loam, 15 to						
Are climatic / hydrologic conditions on the site typical for t					•	
Are Vegetation, Soil, or Hydrology				'Normal Circumstances" p		No. V
	-					NO <u> </u>
Are Vegetation, Soil, or Hydrology				eeded, explain any answer		-4
SUMMARY OF FINDINGS – Attach site map	snowing	Sampiin	ig point i	ocations, transects	, important rea	atures, etc.
Hydrophytic Vegetation Present? Yes	No	ls th	ne Sampled	Area		
Hydric Soil Present? Yes	No	with	nin a Wetlar	nd? Yes <u></u>	No	
Wetland Hydrology Present? Yes Remarks:	No					
Recent heavy rains have increased soil sa VEGETATION – Use scientific names of pla		cross the	e site. Sa	mple point located	within wetlan	d cell 10.
	Absolute			Dominance Test work	sheet:	
Tree Stratum (Plot size: 30 ft r 1. Elaeagnus angustifolia	% Cover	Species? ✓	<u>Status</u> FACU	Number of Dominant Sp		
Elaeagnus angustifolia 2.			-	That Are OBL, FACW, (excluding FAC-):	1 <u>1</u>	(A)
3.				Total Number of Domin	ant	
4		-		Species Across All Stra		(B)
Sapling/Shrub Stratum (Plot size: 15 ft r	15		ver	Percent of Dominant Sp That Are OBL, FACW, o		(A/B)
1				Prevalence Index work	ksheet:	
2.				Total % Cover of:	Multiply	/ by:
3 4				OBL species 5	x 1 = <u>5</u>	
5.		-		FACW species 85		
	_	= Total Co	ver	FAC species 0	x 3 = 0	
Herb Stratum (Plot size: 5 ft r			E 4 O 14 /	FACU species 16		
1. Alopecurus arundinaceus	<u>85</u>		FACW	UPL species 3	x 5 = 15	
2. Carex pellita 3. Bromus inermis	$-\frac{5}{2}$		OBL UPL	Column Totals: 109	(A) <u>254</u>	(B)
4 Cirsium arvense	_ Z	-	FACU	Prevalence Index	= B/A = 2.33	
5. Convolvulus arvensis	_ :		UPL	Hydrophytic Vegetation	n Indicators:	
6.		-	·	1 - Rapid Test for H	lydrophytic Vegeta	ation
7.				2 - Dominance Tes		
8.				✓ 3 - Prevalence Inde		
9.				4 - Morphological A	daptations' (Provi	
10				Problematic Hydron		·
20 # *	94	= Total Co	ver			
Woody Vine Stratum (Plot size: 30 ft r) 1.				¹ Indicators of hydric soil be present, unless distu		
2.				Hydrophytic		
	•	= Total Co	ver	Vegetation		
% Bare Ground in Herb Stratum 6				Present? Yes	s No	
Remarks:						
Evidence of hydrophytic vegetation	n include	s a pre	valence	e index less thar	ı or equal to	3.0.

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B-57

Great Plains – Version 2.0

SOIL Sampling Point: DP10w

Profile Desc	ription: (Describe	to the depth ne			dicator o	or confirn	n the absence	of indicators.)
Depth	Matrix Color (moist)		Redo Color (moist)	x Features %	Type ¹	Loc ²	Texture	Remarks
(inches) 0 - 4	10YR 2/2	100	olor (moist)		туре	LOC	Mucky Loam/Clay	saturated
4 - 14	10YR 2/2	100		· —— -			Loam	saturated. Loamy muck mineral
	1011 2/2						Loain	Saturated. Loanly mack mineral
								
¹Type: C=Co	oncentration, D=Dep	letion, RM=Red	uced Matrix, CS	S=Covered	or Coate	d Sand G	rains. ² Loo	cation: PL=Pore Lining, M=Matrix.
Hydric Soil I	ndicators: (Applic	able to all LRR	s, unless other	wise noted	d.)			for Problematic Hydric Soils ³ :
Histosol			Sandy C		ix (S4)			Muck (A9) (LRR I, J)
	oipedon (A2)			Redox (S5)				Prairie Redox (A16) (LRR F, G, H)
Black His	n Sulfide (A4)		Loamy !	Matrix (S6				Surface (S7) (LRR G) Plains Depressions (F16)
	I Layers (A5) (LRR l	F)		Gleyed Matr			_	RR H outside of MLRA 72 & 73)
	ck (A9) (LRR F, G ,		-	d Matrix (F3			•	ed Vertic (F18)
-	l Below Dark Surfac	e (A11)		Oark Surface				arent Material (TF2)
	ark Surface (A12)			d Dark Surf	, ,		-	Shallow Dark Surface (TF12)
-	lucky Mineral (S1) ⁄lucky Peat or Peat ((S2) (I DD C U)		Depressions ains Depres		16)		(Explain in Remarks) of hydrophytic vegetation and
	cky Peat or Peat (S		_	RA 72 & 73				d hydrology must be present,
	, (.	-, (=:::: ,	(,		s disturbed or problematic.
	ayer (if present):							
Type: Co								
Depth (inc	ches): 14						Hydric Soil	Present? Yes No
Remarks:								
Hvdric s	oils are pres	ent.						
	•							
HYDROLO	GY							
Wetland Hyd	drology Indicators:							
_	ators (minimum of o		eck all that apply	y)			Seconda	ary Indicators (minimum of two required)
Surface	Water (A1)		Salt Crust	(B11)			Sur	face Soil Cracks (B6)
High Wa	ter Table (A2)		Aquatic Inv				Spa	rsely Vegetated Concave Surface (B8)
✓ Saturation	on (A3)		Hydrogen	Sulfide Odo	or (C1)		Dra	inage Patterns (B10)
Water M	arks (B1)		Dry-Seaso	n Water Ta	ble (C2)		Oxid	dized Rhizospheres on Living Roots (C3)
	t Deposits (B2)		Oxidized F		s on Livi	ng Roots		vhere tilled)
-	oosits (B3)			not tilled)				yfish Burrows (C8)
_	t or Crust (B4)		_	of Reduced	,	.)		uration Visible on Aerial Imagery (C9)
l .	osits (B5)	lmaganı (D7)	· 	Surface (C	,			omorphic Position (D2)
	on Vis ble on Aerial tained Leaves (B9)	imagery (B7)	Other (Exp	lain in Rem	iaiks)			C-Neutral Test (D5) st-Heave Hummocks (D7) (LRR F)
Field Observ							1103	Serieave Huminocks (D7) (ERRT)
Surface Wate		es No _	✓ Denth (inc	ches).				
Water Table		es No _						
Saturation Pr		es No _					and Hvdrolog	y Present? Yes No
(includes cap	oillary fringe)						-	,
Describe Red	corded Data (stream	gauge, monitor	ing well, aerial p	photos, prev	vious insp	pections),	if available:	
Domortes								
Remarks:								
Wetland	hydrology p	resented	with hydr	ogen sı	ulfide	odora	and soil is	s saturated.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Kindsfater	C	City/Co	ounty:	Yellowst	tone County	Sampling Date	_{e:} 2023-0	36-08
Applicant/Owner: MDT		•	•		State: Montana			
••					nge: S06 T2S R25E	P J		
Landform (hillslope, terrace, etc.): Toeslope						e ;	Slope (%)	27
Subregion (LRR): G 58A								
Soil Map Unit Name: LI - Larim gravelly loam, 15 to 35					-			
Are climatic / hydrologic conditions on the site typical for this					_			
	-				Normal Circumstances" p		No	
Are Vegetation, Soil, or Hydrology signature and the delayers								
Are Vegetation, Soil, or Hydrology na				•	eded, explain any answe	,		
SUMMARY OF FINDINGS – Attach site map s	howing	sam	pling	g point lo	ocations, transects	, important	features	s, etc.
Hydrophytic Vegetation Present? Yes No	, ,		la 4la	. Camanlad	A			
111111111111111111111111111111111111111	~			e Sampled n a Wetlan		No	•	
Wetland Hydrology Present? Yes No			WILIII	ii a vvetiaii	iu: ies	NO		
Remarks:								
Upland data point located at toe of slope. Re	cent hea	avy r	ains	have in	creased soil satura	tion across	the site	: •
VEGETATION – Use scientific names of plant	s.							
	Absolute	Dom	inant	Indicator	Dominance Test work	sheet:		
	% Cover				Number of Dominant Sp			
1					That Are OBL, FACW, (excluding FAC-):	or FAC 0		(A)
2					,			(,,)
3					Total Number of Domin Species Across All Stra	_		(B)
4	0 :	- Tota	l Cov					(-)
Sapling/Shrub Stratum (Plot size: 15 ft r)		- 1018	ii COV	Ci	Percent of Dominant Sp That Are OBL, FACW, of		0	(A/B)
1								
2					Prevalence Index work Total % Cover of:		tiply by:	
3						x 1 = C		
4					FACW species 0			_
5						x 3 = C		
Herb Stratum (Plot size: 5 ft r	<u> </u>	= Tota	II Cov	er	FACU species 0			_
1. Bromus inermis	85			UPL		x 5 = 4		_
2.					Column Totals: 85	(A) <u></u>	125	_ (B)
3					Prevalence Index	- B/A - 5.00)	
4					Hydrophytic Vegetation	· · · · · · · · · · · · · · · · · · ·		
5					1 - Rapid Test for H		getation	
6					2 - Dominance Tes		gotalio.	
7					3 - Prevalence Inde			
8					4 - Morphological A	daptations ¹ (P	rovide supp	orting
9					data in Remarks	•	•	
10	85	= Tota	ol Cov		Problematic Hydrop	ohytic Vegetation	on' (Explair	1)
Woody Vine Stratum (Plot size: 30 ft r)		- 1018	11 000	Ci	¹ Indicators of hydric soi			ıust
1					be present, unless distu	irbed or problei	matic.	
2					Hydrophytic			
% Bare Ground in Herb Stratum 15	0 :	= Tota	l Cov	er	Vegetation Present? Yes	s No	~	
Remarks:								
	totion :	n +1-	ic c	roo Ni	a avidance of b	,dropb.;±:	•	
Bromus inermis is the dominant vege	tation i	ın tr	ııs a	irea. No	evidence of hy	raropnyti	C	
vegetation observed.								

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B-59

Great Plains – Version 2.0

SOIL Sampling Point: DP11u

Profile Desc	ription: (Describe	to the depth n	eeded to docu	ment the i	indicator	or confirr	n the absence of i	ndicators.)	
Depth	Matrix		Redo	x Feature					
(inches)	Color (moist)		Color (moist)	%	Type ¹	Loc ²	<u>Texture</u>	Remarks	3
0 - 18	10YR 4/2	100					Sandy Loam		
-									
					· ——				
	-								
-									
_									
					· ——				
					· ——				
¹ Type: C=Ce	oncentration, D=De	pletion, RM=Red	luced Matrix, C	S=Covered	d or Coate	d Sand G	rains. ² Locatio	n: PL=Pore Lining,	M=Matrix.
Hydric Soil	Indicators: (Appli	cable to all LRR	s, unless othe	rwise not	ed.)		Indicators for	Problematic Hydri	c Soils³:
Histosol	(A1)		Sandy	Gleyed Ma	atrix (S4)		1 cm Mucl	(A9) (LRR I, J)	
Histic Ep	oipedon (A2)		Sandy	Redox (S5	5)		Coast Prai	irie Redox (A16) (LF	RR F, G, H)
Black Hi	stic (A3)		Strippe	d Matrix (S	86)			ace (S7) (LRR G)	
	en Sulfide (A4)			Mucky Mir	. ,		High Plain	s Depressions (F16)
	d Layers (A5) (LRR	•	-	Gleyed Ma			•	I outside of MLRA	72 & 73)
	ıck (A9) (LRR F, G ,			ed Matrix (,		Reduced \	` ,	
	d Below Dark Surfa	ce (A11)		Dark Surfa	` ,			nt Material (TF2)	T10\
_	ark Surface (A12) Mucky Mineral (S1)			ed Dark Su			-	ow Dark Surface (T blain in Remarks)	F12)
	Mucky Milleral (31) Mucky Peat or Peat	(S2) (I RR G H)		Depressio ains Depre		16)		nydrophytic vegetation	on and
	ucky Peat or Peat (_	.RA 72 & 7	•	,		drology must be pre	
0 0 111 1110	iony i out of i out (c	30) (2.1111)	(•••,		turbed or problemat	
Restrictive I	Layer (if present):								
Type:	, , ,								
, , <u> </u>	ches):		•				Hydric Soil Pre	esent? Yes	No
Remarks:	<u> </u>		-				11,4110 0011110		
No hydr	ic soil indica	itors obsei	ved.						
HYDROLO	GY								
	drology Indicators								
-							Casandanii		-f h
	cators (minimum of	one requirea; cn						ndicators (minimum	or two required)
	Water (A1)		Salt Crust		(5.40)			Soil Cracks (B6)	0 ((00)
_	ater Table (A2)		Aquatic In					y Vegetated Concav	e Surface (B8)
Saturation			Hydrogen					e Patterns (B10)	
Water M	` '		Dry-Seaso					d Rhizospheres on I	Living Roots (C3)
	nt Deposits (B2)		Oxidized I			ing Roots	, ,	e tilled)	
Drift Dep			•	not tilled)				Burrows (C8)	
	at or Crust (B4)		Presence			!)		on Visible on Aerial	Imagery (C9)
Iron Dep			Thin Muck				· <u></u>	rphic Position (D2)	
	on Vis ble on Aerial		Other (Ex	plain in Re	emarks)			eutral Test (D5)	
	tained Leaves (B9)						Frost-He	eave Hummocks (D	7) (LRR F)
Field Obser									
Surface Wat		Yes No _							
Water Table	Present?	Yes No _	✓ Depth (in	ches):					
Saturation P	resent?	Yes No _	✓ Depth (in	ches):		Wet	land Hydrology Pr	esent? Yes	No <u> </u>
(includes car									
Describe Re	corded Data (strear	n gauge, monito	ring well, aerial	photos, pr	evious ins	pections),	, if available:		
Remarks:									
No evide	ence of wetl	and hydro	loay obse	rved					
INO EVIU	CITCE OF WELL	ana nyaro	logy obse	ı veu.					

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Kindsfater	Ci	ty/County:	Yellows	tone County	Sampling Date: 2023-06-0	18
Applicant/Owner: MDT		-		State: Montana	· -	
Investigator(s): J Trilling	Se	ection, To	wnship, Rar	nge: S06 T2S R25E	, ,	
Landform (hillslope, terrace, etc.): Toe					Slope (%): 2	
Subregion (LRR): G 58A						
Soil Map Unit Name: An - Alluvial land, wet				NWI classifica		
Are climatic / hydrologic conditions on the site typical for this						
Are Vegetation, Soil, or Hydrologysi	-				resent? Yes No	•
Are Vegetation, Soil, or Hydrology na				eded, explain any answer		
SUMMARY OF FINDINGS – Attach site map s					,	c.
Hydrophytic Vegetation Present? Yes No						
Hydric Soil Present? Yes V)		e Sampled			
Wetland Hydrology Present? Yes No	o	withi	in a Wetlan	nd? Yes	No	
Remarks:						
PEM, depressional/riverine wetland. This point is locate				-		
and creeping meadow-foxtail to smooth brome. Recen	t heavy rains	s have inc	reased so	il saturation across the s	site.	
VEGETATION – Use scientific names of plant	ts.					_
		Dominant	Indicator	Dominance Test works	sheet:	
	% Cover S	3pecies?	Status	Number of Dominant Sp		
1	· ——— -			That Are OBL, FACW, of (excluding FAC-):	or FAC 2 (A)	
2				,		
3				Total Number of Domina Species Across All Strat	^	
4	0 =	Total Cov			(/	
Sapling/Shrub Stratum (Plot size: 15 ft r		TOTAL COV	EI	Percent of Dominant Sp That Are OBL, FACW, o)
1				Prevalence Index work	rsheet:	_
2				Total % Cover of:	Multiply by:	
34.				OBL species 0	x 1 = 0	
5.				FACW species 75	x 2 = 150	
	0 =	Total Cov	er		x 3 = <u>3</u>	
Herb Stratum (Plot size: 5 ft r		Total Gov		FACU species 10		
1. Carex praegracilis	35		FACW	UPL species 0		
2. Juncus balticus	30		FACW	Column Totals: 86	(A) <u>193</u> (B)	
3. Bromus arvensis	10		FACU	Prevalence Index	= B/A = 2.24	
4. Alopecurus arundinaceus	10		FACW	Hydrophytic Vegetatio		_
5. Asclepias speciosa			FAC	✓ 1 - Rapid Test for H		
6				✓ 2 - Dominance Test		
7				✓ 3 - Prevalence Inde		
8				4 - Morphological A	daptations ¹ (Provide supporting	g
9					or on a separate sheet)	
10		Total Cov		Problematic Hydrop	ohytic Vegetation ¹ (Explain)	
Woody Vine Stratum (Plot size: 30)				¹ Indicators of hydric soil be present, unless distu	and wetland hydrology must rbed or problematic.	
2.				Hydrophytic		
	_	Total Cov	er	Vegetation	. V Na	
% Bare Ground in Herb Stratum 14				Present? Yes	S No	
Remarks:						
Carex praegracilis and Juncus balticus are the do	-					
vegetation includes a positive rapid test, a positive	ve dominar	ice test,	and a pre	evalence index less tr	nan or equal to 3.0.	

SOIL Sampling Point: DP11w

Depth Malix Scoto Features Color (motes) Size Color (motes)	Profile Desc	ription: (Describe	to the dep	th needed to docur	ment the	indicator	or confir	m the absence	e of indicators.)
3.0 - 12.0 10YR 3/2 100.0 10YR 4/6 3.0 C M Loam High OM Content									
3.0 - 12.0 10YR 4/1 100.0 10YR 4/6 3.0 C M Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. 1.coation: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histic Epipetion (A2) Sandy Gleyed Matrix (S3) Histic Epipetion (A2) Sandy Gleyed Matrix (S3) Hydrogen Sulfride (A4) Loamy Musby Minleral (F1) Loamy Musby Minleral (F1) Strinffed Layers (A5) (LRR F, G, H) Depleted Datrix (F3) Depleted Batrix (F3) Depleted Batrix (F3) Sandy Muschy Minleral (S1) Sandy Muschy Minleral (S1) Sandy Redox (A8) LRR F, G, H) Depleted Datrix (F3) Sandy Muschy Minleral (S1) Sandy Muschy Minlera				Color (moist)	%	Type'	Loc ²	<u>Texture</u>	
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration (Applicable to all LRRs, unless otherwise noted.) Histos (Applicable to Applicable to all LRRs, unless otherwise noted.) Histos (Applicable to Applicable to all LRRs, unless otherwise (Applicable to Applicable to Applicabl	0.0 - 3.0	10YR 3/2	100.0					Loam	High OM Content
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	3.0 - 12.0	10YR 4/1	100.0	10YR 4/6	3.0	С	М	Loam	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	-								
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	-								
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)							-		
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		-			-				
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			. ———			. ———	-	· 	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			 		_	· ——			
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		-							
Histosof (A1)							ed Sand G		
Histic Epipedon (A2)	-		able to all						•
Black Histic (A3)		• •							
Hydrogen Sulfide (A4)	-			-					
Stratified Layers (A5) (LRR F)					•	,			
		, ,	- \		-			_	
Depleted Below Dark Surface (A11)					-			•	,
					,	,			` '
Sandy Mucky Mineral (S1)	-		C (A11)				١		
2.5 cm Mucky Peat or Peat (S2) (LRR G, H) High Plains Depressions (F16) (MLRA 72 & 73 of LRR H) wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type:							•		, ,
5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H) wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present):		• • •	S2) (LRR (16)		
Restrictive Layer (if present): Type: Depth (inches): Prominent redoximorphic concentrations common within the depleted matrix. HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Aquatic Invertebrates (B13) Aquatic Invertebrates (B13) Aguatic Invertebrates (B13) Aguatic Invertebrates (B13) Aguatic Mater Table (A2) Advantic Mater Table (C2) Advantic Mater Table (C2) Advantic Mater Table (C2) Advantic Mater Table (C2) Aguatic Mater Aguatic Mater (C3) Aguatic Mater Aguatic Mater (C3) Aguatic Mater Aguatic Mater (C3) Aguatic Mater Aguatic Mater (C4) Aguatic Mater Aguatic Mater (C3) Aguatic Mater Aguatic Mater (C3) Aguatic Mater Aguatic Mater (C4) Aguatic Mater Aguatic Mater (C4) Aguatic Mater Aguatic Mater (C5) Aguatic Mater Aguatic Mater (C5) Aguatic Mater Aguatic Mater (C6) Aguatic Mater Aguatic Mater (C6) Aguatic Mater Aguatic Mater (C7) Aguatic Mater Aguatic Mater (C6) Aguatic Mater Aguatic Mater (C7) Aguatic Mate									
Type: Depth (inches): Remarks: Prominent redoximorphic concentrations common within the depleted matrix. HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Surface Water (A1) Surface Water (A1) Surface Water (A2) Aquatic Invertebrates (B13) Sparsely Vegetated Concave Surface (B8) Surtation (A3) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Sparsely Vegetated Concave Surface (B8) Sparsely Negetated Concave Surface (B1) Sparsely Negetated Concave Surface (B1) Sparsely Negetated Concave Sur		•							
Remarks: Prominent redoximorphic concentrations common within the depleted matrix.	Restrictive I	_ayer (if present):							
Remarks: Prominent redoximorphic concentrations common within the depleted matrix. Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Surface Water (A1) Salt Crust (B11) High Water Table (A2) Aquatic Invertebrates (B13) Saturation (A3) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Sparsely Vegetated Concave Surface (B8) Dry-Season Water Table (C2) Sediment Deposits (B1) Drift Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) (where not tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Inon Deposits (B5) Thin Muck Surface (C7) Mater-Stained Leaves (B9) Thin Muck Surface (C7) Weter-Neutral Test (D5) Frost-Heave Hummocks (D7) (LRR F) Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:	Type:								
Prominent redoximorphic concentrations common within the depleted matrix. HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required: check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Sulf Crust (B11) Surface Soil Cracks (B6) High Water Table (A2) Aquatic Invertebrates (B13) Sparsely Vegetated Concave Surface (B8) Saturation (A3) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Water Marks (B1) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) (where not tilled) Drift Deposits (B3) (where not tilled) Inundation Vis ble on Aerial Imagery (B7) Mater-Stained Leaves (B9) Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Owelland Hydrology Present? Yes No Wetland Hydrology Present? Yes No Wetland Hydrology Present? Yes No Memarks:	Depth (inc	ches):						Hydric Soi	Present? Yes V No No
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Sulface Water (A1) Sulface Water (A2) High Water Table (A2) Aquatic Invertebrates (B13) Sparsely Vegetated Concave Surface (B8) Presence of Reduced Iron (C4) Into Deposits (B2) Into Deposits (B5) Water Other (Explain in Remarks) Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Gemarks: Remarks: Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Crayfish Burrows (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Frost-Heave Hummocks (D7) (LRR F) Field Observations: Surface Water Present? Yes No Depth (inches): Saturation Present? Yes No No Depth (inches): On Wetland Hydrology Present? Yes No	Remarks:								
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Sulface Water (A1) Sulface Water (A2) High Water Table (A2) Aquatic Invertebrates (B13) Sparsely Vegetated Concave Surface (B8) Presence of Reduced Iron (C4) Into Deposits (B2) Into Deposits (B5) Water Other (Explain in Remarks) Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Gemarks: Remarks: Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Crayfish Burrows (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Frost-Heave Hummocks (D7) (LRR F) Field Observations: Surface Water Present? Yes No Depth (inches): Saturation Present? Yes No No Depth (inches): On Wetland Hydrology Present? Yes No	Promine	nt redoximor	phic c	oncentration	s com	mon w	ithin t	the deplet	ted matrix.
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Salt Crust (B11) Surface Soil Cracks (B6) High Water Table (A2) Aquatic Invertebrates (B13) Sparsely Vegetated Concave Surface (B8) Saturation (A3) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Water Marks (B1) Drainage Patterns (B10)			•					• 	
Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Aquatic Invertebrates (B13) Water Marks (B1) Dry-Season Water Table (C2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Vis ble on Aerial Imagery (B7) Water-Stained Leaves (B9) Field Observations: Surface Water Marks: Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Fac-Neutral Test (D5) Frost-Heave Hummocks (D7) (LRR F) Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Secondary Indicators (minimum of two required) Surface (B8) Sparsely Vegetated Concave Surface (B8) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) FAC-Neutral Test (D5) Frost-Heave Hummocks (D7) (LRR F) Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Secondary Indicators (minimum of two required: No	HYDROLO	GY							
Surface Water (A1) High Water Table (A2) High Water Table (A2) Aquatic Invertebrates (B13) Water Marks (B1) Dry-Season Water Table (C2) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Vis ble on Aerial Imagery (B7) Water-Stained Leaves (B9) Field Observations: Surface Water Present? Water Table (P2) No Depth (inches): Saturation Present? Yes No Depth (inches): Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Saturation Visible on Aerial Imagery (C9) Thin Muck Surface (C7) Geomorphic Position (D2) FAC-Neutral Test (D5) Frost-Heave Hummocks (D7) (LRR F)	Wetland Hy	drology Indicators:							
Surface Water (A1) High Water Table (A2) High Water Table (A2) Aquatic Invertebrates (B13) Saturation (A3) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Vis ble on Aerial Imagery (B7) Water-Stained Leaves (B9) Field Observations: Surface Water Table (P2) Sufface Water Present? Water Table (P2) Depth (inches): Saturation Present? Yes No Depth (inches): Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Sparsely Vegetated Concave (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Saturation Visible on Aerial Imagery (C9) Uffer (Explain in Remarks) Frost-Heave Hummocks (D7) (LRR F) Wetland Hydrology Present? Yes No	Primary Indic	cators (minimum of o	ne require	d; check all that appl	y)			Second	ary Indicators (minimum of two required)
High Water Table (A2) Aquatic Invertebrates (B13) By Saturation (A3) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Vis ble on Aerial Imagery (B7) Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Saturation Visible on Aerial Imagery (C9) Frost-Heave Hummocks (D2) Wetland Hydrology Present? Yes No No Depth (inches): Saturation Present? Yes No Depth (inches): Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		•			•			· ·	
✓ Saturation (A3)						e (B13)			
Water Marks (B1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8)	_								
Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Iron Deposits (B5) Thin Muck Surface (C7) Geomorphic Position (D2) Inundation Vis ble on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5) Frost-Heave Hummocks (D7) (LRR F) Field Observations: Ves No Depth (inches): Water Table Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:									
Drift Deposits (B3)		• •							
Algal Mat or Crust (B4)							ing Roots	. ,	•
Iron Deposits (B5) Thin Muck Surface (C7) Geomorphic Position (D2) Inundation Vis ble on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5) Frost-Heave Hummocks (D7) (LRR F) Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:	-						1)		• • • • • • • • • • • • • • • • • • • •
Inundation Vis ble on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Frost-Heave Hummocks (D7) (LRR F) Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:		, ,					+)		
Water-Stained Leaves (B9) Frost-Heave Hummocks (D7) (LRR F) Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:		, ,	(D)						
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) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:	· ——		magery (B	/) Other (Exp	olain in Re	emarks)			
Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:								FIO	st-neave nullimocks (D7) (LRR F)
Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:				Na V Danth (in	-h\.				
Saturation Present? Yes No Depth (inches): 0 Wetland Hydrology Present? Yes No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:									
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:									
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:			es	No Depth (in	ches): U		_ Wet	land Hydrolog	y Present? Yes No
Remarks:			gauge, mo	onitoring well, aerial	photos, pr	evious ins	pections)	, if available:	
Evidence of wetland hydrology includes soil saturation, geomorphic position, and a positive fac-neutral test.	Remarks:								
	Evidence	of wetland hvd	roloav ir	ncludes soil sat	uration	geomo	rphic n	osition and	d a positive fac-neutral test
·						, 5000	. p o		

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Kindsfater	(City/Cou	_{ınty:} Yello	wstone County	Sampling Date: 2023-06-07
Applicant/Owner: MDT				State: Montana	Sampling Point: DP12u
Investigator(s): J Trilling				Range: S06 T2S R25E	
Landform (hillslope, terrace, etc.): Hillslope					Slope (%); 20
					Datum: NAD 83
Soil Map Unit Name: LI - Larim gravelly loam, 15 to 3				=	
Are climatic / hydrologic conditions on the site typical for this				_	
Are Vegetation, Soil, or Hydrologys	-				oresent? Yes No
Are Vegetation, Soil, or Hydrology n					
SUMMARY OF FINDINGS – Attach site map				If needed, explain any answe	
					,
Hydrophytic Vegetation Present? Yes Note that the Note has a second of the Note has a seco	0 ~		s the Samp		🗸
Wetland Hydrology Present? Yes V	0	V	vithin a We	etland? Yes	No
Remarks:		<u> </u>			
Upland data point on hillside near DP12u. Re	ecent hea	avy ra	ins have	increased soil satura	tion across the site and
inundated this area.					
VEGETATION – Use scientific names of plan	ts.				
Tree Stratum (Plot size: 30 ft r	Absolute % Cover		ant Indicat		
	30			Number of Dominant S That Are OBL, FACW,	
2.				(excluding FAC-):	<u>1</u> (A)
3.				Total Number of Domir	nant
4.				Species Across All Stra	_
	30	= Total	Cover	Percent of Dominant S	pecies
Sapling/Shrub Stratum (Plot size: 15 ft r)				That Are OBL, FACW,	
1. Prunus virginiana				Prevalence Index wor	ksheet:
2					Multiply by:
3			<u> </u>	OBL species 0	x 1 = 0
4 5.					x 2 = <u>4</u>
	5	= Total	Cover	FAC species 30	
Herb Stratum (Plot size: 5 ft r				FACU species 5	
1. Bromus inermis	80		UPL	UPL species 80	
2. Conium maculatum	2		FACV	Column Totals: 117	(A) <u>514</u> (B)
3				Prevalence Index	= B/A = 4.39
4				Hydrophytic Vegetation	on Indicators:
5				1 - Rapid Test for I	Hydrophytic Vegetation
6				2 - Dominance Tes	st is >50%
7 8				3 - Prevalence Ind	ex is ≤3.0 ¹
9.				4 - Morphological /	Adaptations ¹ (Provide supporting s or on a separate sheet)
10.					phytic Vegetation ¹ (Explain)
	82	= Total	Cover	<u> </u>	
Woody Vine Stratum (Plot size: 30) 1				'Indicators of hydric so be present, unless dist	il and wetland hydrology must urbed or problematic.
2.				Hydrophytic	
	0		Cover	Vegetation	
% Bare Ground in Herb Stratum 18				Present? Ye	s No
Remarks:					
Bromus inermis is the dominant spec	cies at t	his d	lata poi	int. No evidence o	f hydrophytic
vegetation observed.			-		

US Army Corps of Engineers

B-63

Great Plains – Version 2.0

SOIL Sampling Point: DP12u

Profile Desc	ription: (Describe	to the depth n	eeded to docu	ment the i	ndicator	or confirm	n the absence of i	ndicators.)
Depth	Matrix			x Features				
(inches)	Color (moist)		Color (moist)	%	Type ¹	Loc ²	<u>Texture</u>	Remarks
0.0 - 10.0	10YR 2/1	100.0					Sandy Loam	
	-						·	
-								
-				-				
_								
_						-		_
	oncentration, D=Dep Indicators: (Applic					d Sand G		n: PL=Pore Lining, M=Matrix. Problematic Hydric Soils ³ :
Histosol		able to all LKF	Sandy					(A9) (LRR I, J)
_	oipedon (A2)			Redox (S5	. ,			rie Redox (A16) (LRR F, G, H)
Black Hi				d Matrix (S				ce (S7) (LRR G)
	n Sulfide (A4)			Mucky Mir	,			s Depressions (F16)
	Layers (A5) (LRR	F)	-	Gleyed Ma			-	outside of MLRA 72 & 73)
1 cm Mu	ck (A9) (LRR F, G ,	H)	Deplete	ed Matrix (F	=3)		Reduced V	'ertic (F18)
	Below Dark Surfac	ce (A11)	·	Dark Surfa	, ,			t Material (TF2)
	ark Surface (A12)			ed Dark Su				ow Dark Surface (TF12)
	lucky Mineral (S1) /lucky Peat or Peat	(S2) (I DD C L		Depressior ains Depre		16)		lain in Remarks) ydrophytic vegetation and
	icky Peat or Peat (S			.RA 72 & 7				drology must be present,
	,	o) (=::::)	(,	-	urbed or problematic.
	_ayer (if present):							
Type: Co	bble bottom		=					
Depth (inc	ches): 10		=				Hydric Soil Pre	sent? Yes No
Remarks:								
No hydri	ic soil indica	tors obse	rved.					
HYDROLO	GY							
Wetland Hyd	drology Indicators:							
	cators (minimum of		eck all that appl	ly)			Secondary Ir	ndicators (minimum of two required)
Surface	Water (A1)		Salt Crust	(B11)			Surface	Soil Cracks (B6)
	ter Table (A2)		Aquatic In		s (B13)			Vegetated Concave Surface (B8)
Saturation	on (A3)		Hydrogen	Sulfide Od	dor (C1)		Drainage	e Patterns (B10)
Water M	arks (B1)		Dry-Seaso	on Water T	able (C2)		Oxidized	Rhizospheres on Living Roots (C3)
Sedimer	nt Deposits (B2)		Oxidized F	Rhizosphe	res on Livi	ing Roots	(C3) (where	e tilled)
Drift Dep	oosits (B3)		(where	not tilled)			Crayfish	Burrows (C8)
Algal Ma	it or Crust (B4)		Presence			!)	Saturation	on Visible on Aerial Imagery (C9)
-	osits (B5)		Thin Muck				<u> </u>	phic Position (D2)
	on Vis ble on Aerial	Imagery (B7)	Other (Ex	plain in Re	marks)			utral Test (D5)
	tained Leaves (B9)						Frost-He	eave Hummocks (D7) (LRR F)
Field Observ								
Surface Water			Depth (in			_		
Water Table			Depth (in					
Saturation Procession (includes cap		es V No	Depth (in	iches): <u>U</u>		_ Wetl	land Hydrology Pr	esent? Yes V No No
	corded Data (stream	n gauge, monito	ring well, aerial	photos, pro	evious ins	pections),	if available:	
Remarks:								
The obser	ved soil satura	tion is due	to recent pr	ecipitati	ion. Thi	s area c	does not receiv	e sustained wetland
hydrology			. 12.					

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Kindsfater	(City/Count	_v . Yellows	stone County Sampling Date: 2023-06-07
Applicant/Owner: MDT		-		State: Montana Sampling Point: DP12w
	,			nge: S06 T2S R25E
Landform (hillslope, terrace, etc.): Backslope				
, ,			•	Long:108.698628
Soil Map Unit Name: LI - Larim gravelly loam, 15 to				-
Are climatic / hydrologic conditions on the site typical for				
Are Vegetation, Soil, or Hydrology				"Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology				eeded, explain any answers in Remarks.)
				ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes				
Hydric Soil Present? Yes ✔	No		the Sampled	
Wetland Hydrology Present? Yes	No	Wit	hin a Wetlar	nd? Yes No No
PEM, slope wetland. Recent heavy VEGETATION – Use scientific names of pla		e incr	eased s	soil saturation across the site.
Tree Stratum (Plot size: 30 ft r	Absolute % Cover		nt Indicator	Dominance Test worksheet:
Populus deltoides			FAC	Number of Dominant Species That Are OBL, FACW, or FAC
2.				(excluding FAC-): 2 (A)
3.				Total Number of Dominant
4				Species Across All Strata: 4 (B)
Sapling/Shrub Stratum (Plot size: 15 ft r	20			Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00 (A/B)
1. Prunus virginiana	5		FACU	Prevalence Index worksheet:
2. Ribes aureum	5		<u>FACU</u>	Total % Cover of: Multiply by:
3				OBL species <u>5</u> <u>x 1 = 5</u>
4. 5.				FACW species <u>50</u> x 2 = <u>100</u>
- S	10	= Total Co	over	FAC species 30 x 3 = 90
Herb Stratum (Plot size: 5 ft r		. 0 (0.1		FACU species 17 x 4 = 68
1. Carex praegracilis	50		FACW	UPL species $0 \times 5 = 0$
2. Rumex crispus	10		FAC	Column Totals: <u>102</u> (A) <u>263</u> (B)
3. Nasturtium officinale Schedonorus pratensis	<u>5</u>		OBL FACU	Prevalence Index = $B/A = 2.58$
5. Solanum dulcamara	$-\frac{3}{2}$		FACU	Hydrophytic Vegetation Indicators:
				1 - Rapid Test for Hydrophytic Vegetation
6				2 - Dominance Test is >50%
8.				✓ 3 - Prevalence Index is ≤3.0 ¹
9.				4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
10		-	_	Problematic Hydrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size: 30)	72	= Total Co	over	¹ Indicators of hydric soil and wetland hydrology must
1				be present, unless disturbed or problematic.
2	•			Hydrophytic
% Bare Ground in Herb Stratum 28	0	= Total Co	over	Vegetation Present? Yes No
Remarks:				
Carex praegracilis is the dominant	eneciae a	at thic	data no	int Evidence of hydrophytic
vegetation includes a prevalence in	•		•	

US Army Corps of Engineers

B-65

Great Plains – Version 2.0

SOIL Sampling Point: DP12w

Profile Desc	ription: (Describe	to the depth ne	eded to docur	nent the i	ndicator	or confirm	n the absence	of indicators.)
Depth	Matrix			x Feature:		12	T	Demonde
(inches)	Color (moist)		color (moist)	%	Type ¹	Loc ²	<u>Texture</u>	Remarks
0.0 - 10.0	10YR 5/1	100					Sandy Loam	Cobbly/Gravelly
-								
_								
	-							
				-				
1 0 0							. 21	
	oncentration, D=De Indicators: (Appli					d Sand G		cation: PL=Pore Lining, M=Matrix. for Problematic Hydric Soils ³ :
Histosol		cable to all Little	Sandy (fluck (A9) (LRR I, J)
	oipedon (A2)			Redox (S5	. ,			Prairie Redox (A16) (LRR F, G, H)
Black Hi			-	d Matrix (S				Surface (S7) (LRR G)
Hydroge	en Sulfide (A4)		Loamy	Mucky Mir	neral (F1)		High P	Plains Depressions (F16)
	d Layers (A5) (LRR			Gleyed Ma			•	RR H outside of MLRA 72 & 73)
	ick (A9) (LRR F, G,			d Matrix (I				ed Vertic (F18)
-	d Below Dark Surfa ark Surface (A12)	ce (ATT)		Dark Surfa d Dark Su				arent Material (TF2) Shallow Dark Surface (TF12)
	fucky Mineral (S1)			Depressio	, ,			(Explain in Remarks)
2.5 cm N	Mucky Peat or Peat	(S2) (LRR G, H)		ains Depre		16)	3Indicators	of hydrophytic vegetation and
5 cm Mu	icky Peat or Peat (S	63) (LRR F)	(ML	RA 72 & 7	73 of LRR	H)		d hydrology must be present,
Destrictive	over (if present).						unless	disturbed or problematic.
Type: Co	Layer (if present):							
, , <u> </u>	ches): 10						Hydric Soil	Present? Yes V No No
Remarks:	. <u> </u>						nyuric 30ii	riesent? res No
		_						
Deplete	d matrix obs	erved.						
HYDROLO								
	drology Indicators							
	cators (minimum of	one required; che		•				ary Indicators (minimum of two required)
<u>✓</u> Surface			Salt Crust		(5.40)			face Soil Cracks (B6)
	ater Table (A2)		Aquatic In					rsely Vegetated Concave Surface (B8)
✓ Saturation			Hydrogen					inage Patterns (B10)
	larks (B1) nt Deposits (B2)		Dry-Seaso			na Poots		dized Rhizospheres on Living Roots (C3) /here tilled)
	posits (B3)			not tilled)		ing ixouts		yfish Burrows (C8)
	at or Crust (B4)		Presence			·)		uration Visible on Aerial Imagery (C9)
	oosits (B5)		Thin Muck			,		omorphic Position (D2)
-	on Vis ble on Aerial	Imagery (B7)	Other (Exp					C-Neutral Test (D5)
Water-S	tained Leaves (B9)						Fros	st-Heave Hummocks (D7) (LRR F)
Field Obser	vations:							
Surface Water	er Present?	Yes 🔽 No _	Depth (in	ches): 0				
Water Table		Yes 🔽 No _				_		
Saturation Projection (includes car		Yes No _	Depth (in	ches): 0		_ Wetl	land Hydrolog	y Present? Yes No
	corded Data (strear	n gauge, monitor	ing well, aerial	photos, pr	evious ins	pections),	if available:	
	•	•	·	•		,		
Remarks:								
Fyidence	of wetland hyd	drology inclu	des surface	water	high w	ater tah	ole soil satu	ration, and geomorphic
	Nater is flowin				-	ator tab	no, son sall	addin, and geomorphic
position. V	valer is nowill	y iroin a see	Pover tills	sample	ρυπι.			

MDT Montana Wetland Assessment Form (revised March 2008)

1. Project Name: Kindsfater - Created Wetlands 2. MDT Project #: STPX 56 (56) Control #: 5034

3. Evaluation Date: 11/10/2023 4. Evaluator(s): S Weyant 5. Wetlands/Site #(s): Kindsfater - Created

Wetlands 6. Wetland Location(s): i. Legal: T2S,R25E,6

Latitude/Longitude:

45.694719, -108.694721: Central area of creation wetlands in the mitigation site.

ii. Approx. Stationing or Mileposts:

iii. Watershed: 13

> Watershed Name, County: Upper Yellowstone, Yellowstone

7. a. Evaluating Agency: CCI for MDT

b. Purpose of Evaluation:

Wetlands potentially affected by MDT project

Mitigation wetlands; pre-construction

3. X Mitigation wetlands; post-construction

Other:

8. Wetland size: 5.820 acres (measured)

9. Assessment area (AA): 5.820 acres (measured)

10. Classification of Wetland and Aquatic Habitats in AA

HGM Class (Brinson)	Class (Cowardin)	Modifier (Cowardin)	Water Regime	% of AA
D	AB	Е	SI	5.00
D	EM	Е	SI	50.00
D	SS	E	SI	45.00

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

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)

	Predomin	ant conditions adjacent to (within 500 t	feet of) AA
Conditions within 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.): The site is managed in a natural state and contains less than 5% noxious weeds. ii. Prominent noxious, aquatic nuisance, & other exotic vegetation species: Euphorbia esula, Cirsium arvense, Convolvulus arvensis, Bromus

tectorum iii. Provide brief descriptive summary of AA and surrounding land use/habitat: The AA consists of excavated depressional wetland cells within a

historic gravel pit/wetland site. "Created Wetlands" are those that were not classified preserved, enhanced, re-established, and rehabilitated wetlands. Construction at the wetland mitigation site was completed in 2013. Land use surrounding the AA includes commercial developments, a gravel pit, agriculture (grazing), transportation (railroad and interstate), and a shooting range within 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 existence of additiona		Modified Rating
>= 3 (or 2 if 1 is forested) classes	Н	NA	NA	NA
2 (or 1 if forested) classes	М	NA	NA	NA
1 class, but not a monoculture	М	< NO	YES>	L
1 class, monoculture (1 species comprises >= 90% of total cover)	L	NA	NA	NA

Comments: Palustrine emergent vegetation, aquatic bed, and young palustrine scrub-shrub communities developing

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): No usable habitat Incidental habitat (list species) Primary or critical habitat (list species) Secondary habitat (list species)

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	.8M	.7M	.3L	.1L	0L

Sources for documented use (e.g. observations, records, etc): No T&E species are recorded at the mitigation site (USFWS 2023, MTNHP 2023).

14B. Habitat for plant or animals rated S1, S2, or S3 by the Montana Natural Heritage Program: (not including species listed in14A above)

i. AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions): No usable habitat Primary or critical habitat (list species) Secondary habitat (list species) Incidental habitat (list species)

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
S1 Species: Functional Points and Rating	1H	.8H	.7M	.6M	.2L	.1L	0L
S2 and S3 Species: Functional Points and Rating	.9H	.7M	.6M	.5M	.2L	.1L	0L

Sources for documented use (e.g. observations, records, etc): The SOC status of the plains spadefoot (Spea bombifrons), which was previously documented at and believed to persist at the site, has been increased to S4 with recent survey results. No other SOC have been recently reported at the site.

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]):	
X observations of scattered wildlife groups or individuals or relatively few species during X common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, 6	• •

X 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 interms 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								Mod	erate				Low					
Class cover distribution (all vegetated classes)		Ev	en/en			Une	even			Ev	en			Une	even			Ev	en	
Duration of surface water in >=10% of AA	P/P	S/I	T/E	Α	P/P	S/I	T/E	Α	P/P	S/I	T/E	Α	P/P	S/I	T/E	Α	P/P	S/I	T/E	Α
Low disturbance at AA (see #12i)	Е	Е	Е	Н	Е	Е	Н	Н	Е	Н	Н	М	E	Н	М	М	Е	Н	М	М
Moderate disturbance at AA (see #12i)	Н	Н	Н	Н	Н	Н	Н	М	Н	Н	М	М	Н	М	М	L	Н	М	L	L
High disturbance at AA (see #12i)	М	М	М	L	М	М	L	L	М	М	L	L	М	L	L	L	L	L	L	L

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

				37
Evidence of wildlife use (i)		Wildlife habitat f	eatures rating (ii)	
Evidence of wildlife use (i)	Exceptional	High	Moderate	Moderate
Substantial	1E	.9H	.8H	.7M
Moderate	.9H	.7M	.5M	.3L
Minimal	.6M	.4M	.2L	.1L

The site includes upland cottonwood galleries, scrub shrub and emergent wetland, and open water habitat which provides structurally Comments: diverse wildlife habitat.

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 **X NA** and proceed to 14E.)

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

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	Opt	imal	Adec	quate	Po	or	Opt	imal	Adeo	quate	Po	or	Opt	imal	Adec	quate	Po	oor
Thermal cover optimal / suboptimal	0	S	0	S	0	S	0	S	0	S	0	S	0	S	0	S	0	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:

- 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?

 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: NA Comments: No fish habitat within mitigation site; no perennial water.

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 **X 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)	0 ,	entrenche stream typ			ely entrend 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.

/ =
Flood-prone Bankfull Entrenchment ratio width (ER)

2 x Bankfull Depth
Bankfull Depth
Bankfull Depth

SI	ightly Entrenche ER = >2.2	d	Moderately Entrenched ER = 1.41 – 2.2		Entrenched ER = 1.0 - 1.4	
C stream type	D stream type	E stream type	B stream type	A stream type	F stream type	G stream type
	****			•		

ii. Are ≥10 acres of wetland in the AA subject to flooding AND are man-made features which may be significantly damaged by floods located within 0.5 mile downstream of the AA (circle)?
 Comments: Flooding at the site does not occur from in-channel or overbank flow.

- **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		1.11	o 5 acre	feet	<=1 acre foot			
Duration of surface water at wetlands within the AA		S/I	T/E	P/P	S/I	T/E	P/P	S/I	T/E
Wetlands in AA flood or pond >= 5 out of 10 years		.9H	.8H	.8H	.6M	.5M	.4M	.3L	.2L
Wetlands in AA flood or pond < 5 out of 10 years	.9H	.8H	.7M	.7M	.5M	.4M	.3L	.2L	.1L

Comments: Estimated that AA ponds greater than 5 out of 10 years with approximately 5.3 acres inundated to approximately 0.5 feet (5.3*0.5=2.65 acre feet).

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	potential to or compour are n sedimentat	deliver levels nds at levels ot substantia ion, sources	unding land of sof sediment such that oth lly impaired. of nutrients contication pres	er functions Minor or toxicants,	developmen nutrients, or t use with po nutrients, o substantially	t for "probable of coxicants or AA otential to delive or compounds su or impaired. Majo	waterbodies in recauses" related receives or sure high levels of uch that other for sedimentations of eutrophical	to sediment, rounding land sediments, unctions are n, sources of
% cover of wetland vegetation in AA	>= 7	70%	< 7	< 70%		>= 70%		0%
Evidence of flooding / ponding in AA	Yes	No	Yes	No	Yes	No	Yes	No
AA contains no or restricted outlet	1H	.8H	.7M	.5M	.5M	.4M	.3L	.2L
AA contains unrestricted outlet	.9H	.7M	.6M	.4M	.4M	.3L	.2L	.1L

Comments: Isolated depressional wetland cells do not have outlets. Percent cover of wetland vegetation in the AA is greater than 70%.

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)

		1 07						
% Cover of wetland streambank or	Duration of surface water adjacent to rooted vegetation							
shoreline by species with stability ratings of >=6 (see Appendix F).	Permanent / Perennial	Seasonal / Intermittent	Temporary / Ephemeral					
>= 65%	1H	.9H	.7M					
35-64%	.7M	.6M	.5M					
35%	.3L	.2L	.1L					

Comments: Seasonal open water exists within excavated wetland cells. Most of the shorelines are dominated by deep rooted pants such as reed canarygrass or creeping meadow-foxtail, but some cells in the northern portion of the site have shorelines vegetated with shallow rooted annuals such as cheatgrass.

14I. Production Export/Food Chain Support:

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

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

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

Α		Vegetated component >5 acres					Vegetated component 1-5 acres				Vegetated component < 1 acre							
B High		High Moderate Low		w	Hi	High Moderate		Low		High		Moderate		Low				
С	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
P/P	1H	.7M	.8H	.5M	.6M	.4M	.9H	.6M	.7M	.4M	.5M	.3L	.8H	.6M	.6M	.4M	.3L	.2L
S/I	.9H	.6M	.7M	.4M	.5M	.3L	.8H	.5M	.6M	.3L	.4M	.2L	.7M	.5M	.5M	.3L	.3L	.2L
T/E/A	.8H	.5M	.6M	.3L	.4M	.2L	.7M	.4M	.5M	.2L	.3L	.1L	.6M	.4M	.4M	.2L	.2L	.1L

iii. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1.) Vegetated 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

iv. Final Score and Rating: 0.80H

Comments: The upland buffer around the AA has greater than 30% plant cover. Greater than 5 acres of wetland in the AA are vegetated.

The AA is a slope wetland Springs or seeps are known or observed Wetland contains inlet but no outlet Vegetation growing during dormant season/drought Wetland contains inlet but no outlet Stream is a known 'losing' stream; discharge volume decrease Other: AA permanently flooded during drought periods Wetland contains an outlet, but no inlet X Shallow water table and the site is saturated to the surface Other: Iii. Rating (use the information from i and ii above and the table below to arrive at [circle] the functional points and rating) Duration of saturation at AA Wetlands FROM GROUNDWATER DISCHARGE OR WITH WATER THAT IS RECHARGING THE GROUNDWATER SYSTEM Criteria Pi/P Si/I T None Groundwater Discharge or Recharge 1H 7M AM 1L Insufficient Data/Information Comments: Wetland cells demonstrated shallow surface water or saturation to the soil surface; gravel substrate in created depressional wetland area 14K. Uniqueness: i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating) AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland or plant association listed as "52" by the MTNHP AA does not contain previously cited rare types and structural diversity (#13) is low-moderate AA does not contain previously cited rare types or associations and structural diversity (#13) is low-moderate	i. Discharge Indicators					i Recharge	Indicators			
Springs or seeps are known or observed Veglatand contains inlet but no outlet Veglatation growing during dormant season/drought Veglatand occurs at the toe of a natural slope Other:	_					•		ent without u	nderlying imn	eding laver
Vegetation growing during dormant season/drought Other: Othe	·	or observed					•		nachynng innp	cuing layer
Wetland occurs at the toe of a natural slope AA permanently flooded during drought periods Wetland contains an outlet, but no inlet X Shallow water table and the site is saturated to the surface Other: II. Rating (use the information from i and ii above and the table below to arrive at [circle] the functional points and rating) Duration of saturation at AA Wetlands FROM GROUNDWATER DISCHARGE OR WITH WATER THAT IS RECHARGING THE GROUNDWATER SYSTEM Criteria PIP SII T None Groundwater Discharge or Recharge 1H .7M .4M .1L Insufficient Data/Information N/A Comments: Wetland cells demonstrated shallow surface water or saturation to the soil surface; gravel substrate in created depressional wetland are: 4K. Uniqueness: Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating) AA contains fen, bog, warm springs or mature (>80 y-rold) forested wetland or plant association listed as 'S1' by the MTNHP AA contains fen, bog, warm springs or mature (>80 y-rold) forested wetland or plant association listed as 'S1' by the MTNHP Estimated relative abundance (#11) Fare common abundant Low disturbance at AA (#12) 1H .9H .8H .8H .6M .5M .5M .5M .4M .3L Comments: This wetland type is considered common in the area. 4L. Recreation/Education Potential: (affords 'bonus' points if AA provides recreation or education opportunity) Is the AA a known or potential rec./ed. site: (circle) X (if 'Yes' continue with the evaluation; if 'No' then mark NA and proceed to the overall summary and rating page) 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) 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) Is the AA a known or potential rec./ed. site: (circle) X (if 'Yes' continue with the evaluation; if 'No' then mark NA and p	• .		on/drought						harge volume	e decreases
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Wetland contains an outlet, but no inlet			•		`					
X Shallow water table and the site is saturated to the surface Other: Other:			0000							
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DISCHARGE OR WITH WATER THAT IS RECHARGING THE GROUNDWATER SYSTEM T None	i. Rating (use the information from i	and ii above							-	
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Groundwater Discharge or Recharge		<u> </u>						NI	4	
Insufficient Data/Information									4	
AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland are sociation listed as "S1" by the MTNHP Estimated relative abundance (#11)		rge	IH					.IL	4	
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General Site Notes

The SOC status of the plains spadefoot (Spea bombifrons), which was previously documented at and believed to persist at the site, has been removed. No other SOC have been documented at the site, resulting in a score of zero for this value. The change in score shifts the wetlands from Category II to Category III.

FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #(S): Kindsfater - Created Wetlands

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	L	0.00	1	0.00	
B. MT Natural Heritage Program Species Habitat	L	0.00	1	0.00	
C. General Wildlife Habitat	М	0.70	1	4.07	*
D. General Fish Habitat	NA				
E. Flood Attenuation	NA				
F. Short and Long Term Surface Water Storage	М	0.60	1	3.49	
G. Sediment/Nutrient/Toxicant Removal	Н	1.00	1	5.82	*
H. Sediment/Shoreline Stabilization	М	0.60	1	3.49	
I. Production Export/Food Chain Support	Н	0.80	1	4.66	*
J. Groundwater Discharge/Recharge	М	0.70	1	4.07	*
K. Uniqueness	М	0.50	1	2.91	
L. Recreation/Education Potential (bonus points)	Н	0.20	1	1.16	
Totals: Percent of Possible Score		5.10	9.00 57%	29.67	

Category I Wetland: (must satisfy one of the following criteria; otherwise go to Category II) Score of 1 functional point for Listed/Proposed Threatened or Endangered Species; or Score of 1 functional point for Uniqueness; or Score of 1 functional point for Flood Attenuation and answer to Question 14E.ii is "yes"; or Percent of possible score > 80% (round to nearest whole #).
Category II Wetland: (Criteria for Category I not satisfied and meets any one of the following criteria; 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; andVegetated wetland component 1 acre (do not include upland vegetated buffer); andPercent of possible score 35% (round to nearest whole #).

OVERALL ANALYSIS AREA RATING: III

Summary Comments: Created wetland acreage decreased slightly in 2023 (0.08 acres).

MDT Montana Wetland Assessment Form (revised March 2008)

1. Project Name: Kindsfater - Existing Wetlands

3. Evaluation Date: 11/13/2023 4. Evaluator(s): S Weyant 5. Wetlands/Site #(s): Kindsfater - Existing Wetland

8. Wetland size:

9. Assessment area (AA):

6. Wetland Location(s): i. Legal: T2S,R25E,6

ii. Approx. Stationing or Mileposts:

iii. Watershed: 13

> Watershed Name, County: Upper Yellowstone, Yellowstone

7. a. Evaluating Agency: CCI for MDT

b. Purpose of Evaluation:

Wetlands potentially affected by MDT project

Mitigation wetlands; pre-construction

3. X Mitigation wetlands; post-construction

Other:

10. Classification of Wetland and Aquatic Habitats in AA

HGM Class (Brinson)	Class (Cowardin)	Modifier (Cowardin)	Water Regime	% of AA
S	EM	PD	SI	80.00
S	SS	PD	SI	20.00

2. MDT Project #: STPX 56 (56) Control #: 5034

32.360 acres (measured)

32.360 acres (measured)

Latitude/Longitude: 45.693343, -108.696369: Central area of

pre-existing wetlands at the mitigation site.

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)

	Predomin	ant conditions adjacent to (within 500 t	feet of) AA
Conditions within 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.): The mitigation site is managed in a natural state and contains less than 5% noxious weeds.

ii. Prominent noxious, aquatic nuisance, & other exotic vegetation species: Euphorbia esula, Cirsium arvense, Convolvulus arvensis,

Cynoglossum officinale, Bromus tectorum

iii. Provide brief descriptive summary of AA and surrounding land use/habitat: The AA is a historic gravel pit/wetland site and includes pre-existing slope/depressional wetland areas. Wetland mitigation construction was completed in early spring 2013. Land use surrounding the AA includes commercial developments, agriculture (grazing), transportation (railroad and interstate). A shooting range is included within 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		Is current management existence of additional		Modified Rating
>= 3 (or 2 if 1 is forested) classes		NA	NA	NA
2 (or 1 if forested) classes		NA	NA	NA
1 class, but not a monoculture	М	< NO	YES>	L
1 class, monoculture (1 species comprises >= 90% of total cover)	L	NA	NA	NA

Comments: Cowardin classes present within the mitigation site includes emergent and scrub shrub. Woody vegetation in the wetlands provides important structural and habitat diversity for wildlife.

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): No usable habitat

Primary or critical habitat (list species) Secondary habitat (list species) Incidental habitat (list species)

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	.8M	.7M	.3L	.1L	0L

Sources for documented use (e.g. observations, records, etc): No T&E species have been reported at the mitigation site (MTNHP 2023, USFWS 2023)

14B. Habitat for plant or animals rated S1, S2, or S3 by the Montana Natural Heritage Program: (not including species listed in14A above)

i. AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions): No usable habitat

Primary or critical habitat (list species) Secondary habitat (list species) Incidental habitat (list species)

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
S1 Species: Functional Points and Rating	1H	.8H	.7M	.6M	.2L	.1L	0L
S2 and S3 Species: Functional Points and Rating	.9H	.7M	.6M	.5M	.2L	.1L	0L

Sources for documented use (e.g. observations, records, etc): The SOC status of the plains spadefoot (Spea bombifrons), which was previously documented at and believed to persist at the site, has been increased to S4 with recent survey results. No other SOC have been recently reported at the site.

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]): X observations of scattered wildlife groups or individuals or relatively few species during common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, and 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 interms 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									Mod	erate				Low			
Class cover distribution (all vegetated classes)		E۱	en/en			Une	even			Even			Uneven				Even			
Duration of surface water in >=10% of AA	P/P	S/I	T/E	Α	P/P	S/I	T/E	Α	P/P	S/I	T/E	Α	P/P	S/I	T/E	Α	P/P	S/I	T/E	Α
Low disturbance at AA (see #12i)	Е	Е	Е	Н	Е	Е	Н	Н	Е	Н	Н	М	Е	Н	М	М	Е	Н	М	М
Moderate disturbance at AA (see #12i)	Н	Н	Н	Н	Н	Н	Н	М	Н	Н	М	М	Н	М	М	L	Н	М	L	L
High disturbance at AA (see #12i)	М	М	М	L	М	М	L	L	М	М	L	L	М	L	L	L	L	L	L	L

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

in. Italing (dase the conclusions no	The and it above and the mati	ix below to arrive at [circle] t	ne fanctional points and fath	197
Evidence of wildlife use (i)		Wildlife habitat f	eatures rating (ii)	
Evidence of wildlife use (i)	Exceptional	High	Moderate	Moderate
Substantial	1E	.9H	.8H	.7M
Moderate	.9H	.7M	.5M	.3L
Minimal	.6M	.4M	.2L	.1L

Comments: The site includes upland cottonwood galleries, scrub shrub and emergent wetland, and open water habitat which provides structurally diverse wildlife habitat.

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 **X NA** and proceed to 14E.)

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

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	Opt	imal	Adeo	luate	Po	or	Opt	imal	Adec	quate	Po	or	Opt	imal	Adeo	luate	Po	oor	
Thermal cover optimal / suboptimal	0	S	0	S	0	Ø	0	S	0	S	0	S	0	S	0	S	0	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:

- 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?

 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: NA Comments: No fish habitat within mitigation site.

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 **X 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)	0 ,	entrenche stream typ			ely entrend 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.

/ =
Flood-prone Bankfull Entrenchment ratio width (ER)

2 x Bankfull Depth
Bankfull Depth
Bankfull Depth

SI	ightly Entrenche ER = >2.2	d	Moderately Entrenched ER = 1.41 – 2.2	Entrenched ER = 1.0 – 1.4						
C stream type	D stream type	E stream type	B stream type	A stream type	F stream type	G stream type				
	****			•						

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

Comments: Wetlands are not subject to flooding via in-channel or overbank flow as there are no waterways on site.

- **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 fe	et	1.11	to 5 acre	feet	<=1 acre foot			
Duration of surface water at wetlands within the AA	P/P	S/I	T/E	P/P	S/I	T/E	P/P	S/I	T/E	
Wetlands in AA flood or pond >= 5 out of 10 years	1H	.9H	.8H	.8H	.6M	.5M	.4M	.3L	.2L	
Wetlands in AA flood or pond < 5 out of 10 years	.9H	.8H	.7M	.7M	.5M	.4M	.3L	.2L	.1L	

Comments: Wetlands in the AA flood from precipitation and groundwater. It is estimated that the AA ponds greater than 5 out of 10 years (approximately 27 acres inundated roughly 0.5 feet).

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	potential to or compour are no sedimentat	deliver levels ids at levels ot substantia ion, sources	unding land of sof sediment such that oth lly impaired. of nutrients oth cation pres	s, nutrients, er functions Minor or toxicants,	developmen nutrients, or t use with po nutrients, o substantially	t for "probable of coxicants or AA otential to delive or compounds su or impaired. Majo	waterbodies in reauses" related receives or surrer high levels of uch that other fuor sedimentations of eutrophical	to sediment, rounding land sediments, unctions are n, sources of	
% cover of wetland vegetation in AA	>= 7	70%	< 7	0%	>= 70% < 70%				
Evidence of flooding / ponding in AA	Yes	No	Yes	No	Yes	No	Yes	No	
AA contains no or restricted outlet	1H	.8H	.7M	.5M	.5M	.4M	.3L	.2L	
AA contains unrestricted outlet	.9H	.7M	.6M	.4M	.4M	.3L	.2L	.1L	

Comments: Unrestricted drainage from slope wetlands on the upper terrace to the depressional wetlands on the lower terrace.

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 wetland streambank or	Duration	of surface water adjacent to rooted ve	egetation
shoreline by species with stability ratings of >=6 (see Appendix F).	Permanent / Perennial	Seasonal / Intermittent	Temporary / Ephemeral
>= 65%	1H	.9Н	.7M
35-64%	.7M	.6M	.5M
35%	.3L	.2L	.1L

Comments: Seasonal open water exists within excavated wetland cells. Most of the shorelines are dominated by deep rooted plants such as reed canary grass, broadleaf cattail, and Russian olive.

14I. Production Export/Food Chain Support:

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

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

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

Α		Vegetated component >5 acres						Vegetated component 1-5 acres							Vegetated component < 1 acre						
В	Hi	gh	Mode	erate	Lo	W	Hi	gh	Mode	erate	Low		High		Mode	erate	Low				
С	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No			
P/P	1H	.7M	.8H	.5M	.6M	.4M	.9H	.6M	.7M	.4M	.5M	.3L	.8H	.6M	.6M	.4M	.3L	.2L			
S/I	.9H	.6M	.7M	.4M	.5M	.3L	.8H	.5M	.6M	.3L	.4M	.2L	.7M	.5M	.5M	.3L	.3L	.2L			
T/E/A	.8H	.5M	.6M	.3L	.4M	.2L	.7M	.4M	.5M	.2L	.3L	.1L	.6M	.4M	.4M	.2L	.2L	.1L			

iii. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1.) Vegetated 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: The upland buffer around the AA has greater than 30% vegetative cover.

14J. Groundwater Discharge/Recha	rge: (check t	the appropria	te indicators	in i & ii belov	v)					
i. Discharge Indicators	ii. Recharge Indicators									
X The AA is a slope wetland Permeable subst					bstrate prese	ent without u	nderlying imp	eding layer		
Springs or seeps are known	or observed			v	Vetland conta	ains inlet but	no outlet			
Vegetation growing during do	ormant seaso	on/drought		S	Stream is a kr	nown 'losing'	stream; disc	harge volum	e decreases	
X Wetland occurs at the toe of	a natural slo	ре			Other:					
AA permanently flooded duri	ng drought p	eriods								
X Wetland contains an outlet, t	out no inlet									
Shallow water table and the	site is satura	ted to the sur	face							
Other:										
iii. Rating (use the information from i	and ii ahove	and the table	helow to arr	ive at [circle]	the functions	al nointe and	rating)			
III. Kating (use the information from t	and if above							7		
	n of saturation at AA Wetlands									
					ER SYSTEM					
Criteria		P/P		S/I	Т		None	-		
Groundwater Discharge or Recha	rge	1H		.7M	.4M		.1L			
Insufficient Data/Information			•	N//	A	•		7		
Comments: PEM/PSS wetland at the	e toe of slop	e; receives g	roundwater f	rom slope we	etlands on ter	race above.		_		
44K Uniquences										
14K. Uniqueness:	usa tha mati	iv balaw ta a	rrive at laired	al the function	nal nainta an	d ratina)				
i. Rating (working from top to bottom,	use me man	ix below to a	Trive at [Circi	T .			1			
Replacement potential or ma wetland		contains fen, bog, warm springs			t contain pre		AA does not contain previously cited			
		or mature (>80 yr-old) forested			rare types and structural diversity (#13) is high or contains plant			rare types or associations and		
		wetland or plant association listed as "S1" by the MTNHP			association listed as "S2" by the			structural diversity (#13) is low- moderate		
	as c	or by the lvii	INIT		MTNHP			inouerate		
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: Site is not unique for thi	s area.									
14L. Recreation/Education Potentia	l. (afforde "h	onue" nointe i	if AA provido	e rocroation	or adjugation	onnortunity)				
i. Is the AA a known or potential rec	•	•					rk NAa	nd proceed to	o the	
overall summary and rating p		<u> </u>	1 103 0011111	ide with the c	valuation, ii	ivo tilcii illa		ina proceed to	o tric	
ii. Check categories that apply to the	• .	Educational/s	eciontific etu	dv: Y Con	cumptive rec	· X Non c	oncumptivo	roc:		
ii. Check categories that apply to the			Scientific Stud	ay, <u>A</u> Cons	sumptive rec.	., <u>X</u> INOII-C	onsumpuve	160.,		
W. Battana		Other :								
iii. Rating:						i		1	–	
Known or Potential Recreation or Education Area							Known	Potential	4	
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 Comments: Access is permitted without permission with the exception of the police shooting range, to which access							.1M	.05L		
Comments: Access is permitted with	out permissi	on with the e	xception of t	ne police sho	oting range,	to which acc	ess is prohib	oited.		
Company Site Nates										
General Site Notes						d believed to				

The SOC status of the plains spadefoot (Spea bombifrons), which was previously documented at and believed to persist at the site, has been removed. No other SOC have been documented at the site, resulting in a score of zero for this value. The change in score shifts the wetlands from Category II to Category III.

FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #(S): Kindsfater - Existing Wetland

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	L	0.00	1	0.00	
B. MT Natural Heritage Program Species Habitat	L	0.00	1	0.00	
C. General Wildlife Habitat	М	0.50	1	16.18	
D. General Fish Habitat	NA				
E. Flood Attenuation	NA				
F. Short and Long Term Surface Water Storage	Н	0.90	1	29.12	*
G. Sediment/Nutrient/Toxicant Removal	Н	0.90	1	29.12	*
H. Sediment/Shoreline Stabilization	Н	0.90	1	29.12	*
Production Export/Food Chain Support	Н	0.80	1	25.89	*
J. Groundwater Discharge/Recharge	М	0.70	1	22.65	
K. Uniqueness	L	0.30	1	9.71	
L. Recreation/Education Potential (bonus points)	Н	0.20	1	6.47	
Totals:		5.20	9.00	168.26	
Percent of Possible Score	58%				

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) X "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: III

Summary Comments: The existing wetlands at the Kindsfater Wetland Mitigation Site increased from Category III to Category II in 2022. The wetlands are again ranked Category II in 2023.

APPENDIX C PROJECT AREA PHOTOGRAPHS

MDT Wetland Mitigation Monitoring Kindsfater Yellowstone County, Montana



Photo Point: 1. View of eastern edge of Cell 14 looking W Bearing: 280 degrees Year: 2013



Photo Point: 1. View of eastern edge of Cell 14 looking W Bearing: 280 degrees Year: 2023



Photo Point: 2. View of western side of Cell 13 looking SW Bearing: 280 degrees Year: 2013



Photo Point: 2. View of western side of Cell 13 looking SW Bearing: 280 degrees Year: 2023



Photo Point: 3. View of southern edge of Cell 9 looking NE Bearing: 0 degrees Year: 2013



Photo Point: 3. View of southern edge of Cell 9 looking NE Bearing: 0 degrees Year: 2023



Photo Point: 4. View of Cell 12 looking S Bearing: 200 degrees Year: 2013



Photo Point: 4. View of Cell 12 looking S Bearing: 200 degrees Year: 2023



Photo Point: 5. View of Cell 11 looking SW Bearing: 10 degrees Year: 2013



Photo Point: 5. View of Cell 11 looking SW Bearing: 10 degrees Year: 2023



Photo Point: 6. View of western side of Cell 10 looking SW Bearing: 150 degrees Year: 2013



Photo Point: 6. View of western side of Cell 10 looking SW Bearing: 150 degrees Year: 2023



Photo Point: 7. View of western side of Cell 5 looking east Bearing: 90 degrees Year: 2013



Photo Point: 7. View of western side of Cell 5 looking east Bearing: 90 degrees Year: 2023



Photo Point: 8. View of western edge of Cell 2 looking NW Bearing: 315 degrees Year: 2013



Photo Point: 8. View of western edge of Cell 2 looking NW Bearing: 315 degrees Year: 2023



Photo Point: 9. View of Cell 1 looking N Bearing: 90 degrees Year: 2013



Photo Point: 9. View of Cell 1 looking N Bearing: 90 degrees Year: 2023



Photo Point: 10. View of northern portion of Cell 3 looking SE Bearing: 140 degrees Year: 2013



Photo Point: 10. View of northern portion of Cell 3 looking SE Bearing: 140 degrees Year: 2023



Photo Point: 11. View of Cell 7 looking SE Bearing: 150 degrees Year: 2013



Photo Point: 11. View of Cell 7 looking SE Bearing: 150 degrees Year: 2023



Photo Point: 12. View of Cell 6 looking W Bearing: 230 degrees Year: 2013



Photo Point: 12. View of Cell 6 looking W Bearing: 230 degrees Year: 2023

Kindsfater: Transect Photographs



Transect 1: Start Bearing: 240 degrees

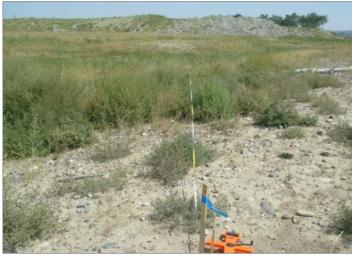


Location: Wetland Cell 14



Transect 1: Start Bearing: 240 degrees

Location: Wetland Cell 14 Year: 2023



Transect 1: End Bearing: 50 degrees



Year: 2013

Year: 2013



Year: 2023

Bearing: 50 degrees

Transect 2: Start Bearing: 225 degrees

Location: Wetland Cell 8 Year 2013

Transect 2: Start Bearing: 225 degrees

Location: Wetland Cell 8 Year 2023

Kindsfater: Transect Photographs



Transect 2: End Bearing: 40 degrees

Location: Wetland Cell 8
Year 2013



Transect 2: End Bearing: 40 degrees

Location: Wetland Cell 8 Year 2023



Transect 3: Start Bearing: 290 degrees

Location: Wetland Cell 4 Year 2013



Transect 3: Start Bearing: 290 degrees

Location: Wetland Cell 4 Year 2023



Transect 3: End Bearing: 290 degrees

Location: Wetland Cell 4 Year 2013



Transect 3: End Bearing: 290 degrees

Location: Wetland Cell 4 Year 2023



Data Point: DP01w Year 2023



Location: Veg Community 5



Data Point: DP01u Location: Veg Community 14 Year 2023



Data Point: DP02w Year 2023



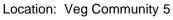
Location: Veg Community 11



Location: Veg Community 14 Data Point: DP02u Year 2023



Data Point: DP03w Year 2023





Data Point: DP03u Year 2023

Location: Veg Community 14



Data Point: DP04w Year 2023



Data Point: DP04u Year 2023

Location: Veg Community 12



Data Point: DP05w Year 2023



Location: Veg Community 14



Data Point: DP05u Year 2023

Location: Veg Community 4/15



Data Point: DP06w Year 2023

Location: Veg Community 16



Data Point: DP06u Year 2023

Location: Veg Community 4/14



Data Point: DP07w Year 2023



Data Point: DP07u Year 2023

Location: Veg Community 10



Data Point: DP08w Year 2023



Location: Veg Community 8

Location: Veg Community 9



Data Point: DP08u Year 2023

Location: Veg Community 17



Data Point: DP09w Year 2023

Location: Veg Community 9



Data Point: DP09u Year 2023

Location: Veg Community 17



Data Point: DP10w Year 2023



Data Point: DP10u Year 2023

Location: Veg Community 17



Data Point: DP11w Year 2023



Location: Veg Community 3



Data Point: DP11u Year 2023

Location: Veg Community 17



Data Point: DP12w Year 2023

Location: Veg Community 16



Data Point: DP12u Year 2023

Location: Veg Community 14