#### 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: 2022** 

Years Monitored: 10th year of monitoring

Corps Permit Number: NWO-2007-00824-MTB

Monitoring Conducted By: Confluence Consulting Inc Dates Monitoring Was Conducted: June 21-22, 2022

#### **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 10

Mitigation Site Construction Started: 2012 Construction Ended: 2012

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

Activity: Weed spraying was conducted in October 2021 but not in 2022.

**Specific recommendations for additional corrective actions:** Fence by the green access gate at the SW portion of the site is down and needs repair.

**Anticipated Wetland Credit Acres: 32.7** 

Wetland Credit Acres Generated to Date: 24.7

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)

Engineers (USACE).

**Requirements** (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 2022, 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.	Υ	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 and in the USACE wetland determination data forms (Appendix A and B).
	Hydric soil conditions present or appear to be forming.	Y	The constructed wetland complex exhibits hydric soil development, with redoximorphic features and the presence of other prominent hydric soil indicators observed within many of the excavated depressions.
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.	Υ	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.	Υ	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 2022 monitoring event. All wetlands that were designed to provide 80 percent vegetative cover are currently achieving that performance standard.
Woody Plants	Plantings will be considered successful where they exceed 50 percent survival after 5 years.	N	Approximately 14 percent of the woody plantings observed were alive in 2022, which does not meet the 50 percent survival criteria. However, volunteer woody cover within wetland cells 13 and 14 exhibited a cover class of 5 (>50 percent), and within wetland cell 9 a cover class of 4 (21-50 percent). 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	Open water areas, with less than 5 percent vegetative cover, were mapped within cells 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. Overall water depths ranged from 1 to 36 inches deep. A variety of herbaceous and woody hydrophytic species comprised the vegetated areas.
Upland Buffer	Success will be achieved when noxious weeds do not exceed 5 percent cover within the buffer areas on site.	Υ	Noxious weed cover was less than 5 percent within upland buffer areas, including infestations of field bindweed, leafy spurge, and Canada thistle. MDT will continue to implement weed-control measures to maintain this criterion.

Performance Standards	Success Criteria	Criteria Achieved Y/N	Discussion
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 2022. Field bindweed infestations were the most prevalent noxious weed occurrences observed during the 2022 monitoring event.
Fencing	Install wildlife-friendly fencing along the easement boundaries.	Y	Wildlife-friendly fencing has been installed around the easement boundaries and is in good condition.

#### **Summary Data**

Wetland Delineation — The wetland acreage continued to tend upwards in 2022 due to improved hydrology across the site. The total wetland acreage delineated in 2022 (including preexisting wetland areas) was 39.2 acres, which is a 1.7-acre increase from the 2021 acreage (37.5 acres). The most significant increase in wetland acreage occurred within the reestablishment (restoration) areas, with an additional 0.8 acres delineated in 2022. The delineation confirmed 19.1 acres in preservation areas, 11.2 acres in the restoration areas (reestablishment (10.1-acres) and rehabilitation (1.1-acres)), 3.0 acres in the enhancement area, and 5.9 acres of created wetland in the excavated cells (Table 2). 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 recent USACE guidance, open water accounted for 0.7-acre of the mitigation site in 2022 (Table 2). Uplands accounted for the remaining 75.8 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 2015 Through 2022 at the Kindsfater Site

Habitat Type	2015 Acreage	2016 Acreage	2017 Acreage	2018 Acreage	2019 Acreage	2020 Acreage	2021 Acreage	2022 Acreage
Preservation	21.3	20.3	20.5	17.6	17.4	18.4	18.8	19.1
Reestablishment (Restoration)	7.9	7.8	6.8	6.1	7.3	7.4	9.3	10.1
Rehabilitation (Restoration)	0.9	0.9	1.0	1.0	1.0	1.1	1.1	1.1
Enhancement	3.0	3.4	3.0	3.0	2.9	2.9	3.0	3.0
Establishment (Creation)	1.8	2.0	2.2	4.7	4.7	4.9	5.3	5.9
Open Water						0.4	0.5	0.7
Total Wetland & Aquatic Habitat	34.9	34.4	33.4	32.4	33.3	35.1	38.0	39.9

**Vegetation** — A total of 152 plant species were identified on the site from 2013 through 2022, including six new species in 2022. However, *Juncus compressus* (round-fruit rush) was found to be misidentified as *Juncus gerardii* (saltmarsh rush) in previous years, and this error was corrected in 2022 (see plant list in Appendix B). Vegetation communities were identified by species composition and dominance. In 2022, significant shifts in upland and wetland vegetation communities were observed. Shifts in upland vegetation communities were primarily driven by the continued increase in cheatgrass (*Bromus tectorum*) cover. Consequently, a new community, Upland Type 18 — *Bromus tectorum* was created. This new community absorbed the old Upland Type 15 and much of Upland Type 14 communities in 2022. In addition, Wetland Types 10 and 3 were eliminated because *Poa palustris* (fowl blue grass) was nearly absent from the site in 2022. These communities were primarily absorbed into the new community Wetland Type 19 — *Alopecurus arundinaceus*. Some areas have combined vegetation communities such as Upland Communities 4/14 and 4/18 because a mosaic of two communities exits within an area and could not be individually mapped.

The following vegetation community types were identified in 2022:

- Upland Type 4 Elaeagnus angustifolia
- Upland Type 14 *Elymus* spp./*Bromus* spp.
- Upland Type 17 Bromus spp./Poa pratensis
- Upland Type 18 Bromus tectorum
- 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

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).

Vegetation cover was measured along three transects in 2022 (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 is 300 feet long and intersects Upland Type 14 and Wetland Types 8 and 9. The number of vegetation communities decreased by one in 2022 due to the transect beginning in vegetation Wetland Type 9 and not Upland Type 14 as it did in 2021. Total vegetative cover along this transect was 85 percent in 2022. The number of hydrophytic species increased in 2022, but due to a decrease in upland species, the total number of species decreased by two in 2022.

Table 3. Data Summary for T-1 From 2017 Through 2022 at the Kindsfater Site

Monitoring Year	2017	2018	2019	2020	2021	2022
Transect Length (feet)	300	300	300	300	300	300
Vegetation Community Transitions Along Transect	4	4	4	4	4	3
Vegetation Communities Along Transect	4	5	3	3	3	3
Hydrophytic Vegetation Communities Along Transect	2	2	2	2	2	2
Total Vegetative Species	38	35	40	35	34	32

Monitoring Year	2017	2018	2019	2020	2021	2022
Total Hydrophytic Species	13	12	12	8	8	12
Total Upland Species	25	23	28	27	26	20
Estimated % Total Vegetative Cover	75	85	84	85	85	85
Estimated % Unvegetated	25	15	16	15	15	15
% Transect Length Comprising Hydrophytic Vegetation Communities	40.3	49.3	55	53	53	48
% Transect Length Comprising Upland Vegetation Communities	59.7	50.7	45	47	47	52
% Transect Length Comprising Unvegetated Open Water	0.0	0.0	0.0	0.0	0.0	0.0
% Transect Length Comprising Mudflat	0.0	0.0	0.0	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 Wetland Types 5 and 19; 100 percent of the transect crossed wetland habitat in 2022, which has remained constant since monitoring began in 2013. Total vegetative cover along this transect was 25 percent in 2022, a significant decrease since 2021. The decrease in vegetation cover was due to cell 8 being inundated with water, facilitating a transition from Wetland Type 2 to Wetland Type 5 vegetation communities. The total number of hydrophytic and upland plant species observed along the transect remained nearly constant from 2021 to 2022.

Table 4. Data Summary for T-2 From 2017 Through 2022 at the Kindsfater Site

Monitoring Year	2017	2018	2019	2020	2021	2022
Transect Length (feet)	388	388	388	388	388	388
Vegetation Community Transitions Along Transect	2	2	2	2	2	2
Vegetation Communities Along Transect	2	2	3	2	2	2
Hydrophytic Vegetation Communities Along Transect	2	2	2	2	2	2
Total Vegetative Species	39	26	27	21	21	22
Total Hydrophytic Species	23	20	20	12	12	13
Total Upland Species	16	6	7	9	9	9
Estimated % Total Vegetative Cover	65	75	88	90	92	25
Estimated % Unvegetated	35	25	12	10	8	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	0.0	0.0	0.0
% Transect Length Comprising Unvegetated Open Water	0.0	0.0	0.0	0.0	0.0	0.0
% Transect Length Comprising Mudflat	0.0	0.0	0.0	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 Wetland Types 5 and 19. Wetland habitat represented 100 percent of the transect in 2022, consistent with 2021. Total vegetative cover along this transect was 85 percent in 2022, representing a decrease of 7 percent since 2021 due to increased inundation in 2022. The total number of hydrophytic and upland plant species observed along the transect was significantly less in 2022 than in 2021, likely due to a dominance of rhizomatous nonnative grasses and cattails within the wetland fringe of wetland cell 8.

Table 5. Data Summary for T-3 From 2017 Through 2022 at the Kindsfater Site

Monitoring Year	2017	2018	2019	2020	2021	2022
Transect Length (feet)	292	292	292	292	292	292
Vegetation Community Transitions Along Transect	1	1	2	2	2	2
Vegetation Communities Along Transect	2	2	3	3	2	2
Hydrophytic Vegetation Communities Along Transect	1	1	2	2	2	2
Total Vegetative Species	31	23	24	27	27	17
Total Hydrophytic Species	19	11	15	14	14	6
Total Upland Species	12	12	9	13	13	11
Estimated % Total Vegetative Cover	75	85	88	90	92	90
Estimated % Unvegetated	25	15	12	10	8	10
% Transect Length Comprising Hydrophytic Vegetation Communities	89.7	91.8	91.8	91.8	100	100
% Transect Length Comprising Upland Vegetation Communities	10.3	8.2	8.2	8.2	0.0	0.0
% Transect Length Comprising Unvegetated Open Water	0.0	0.0	0.0	0.0	0.0	0.0
% Transect Length Comprising Mudflat	0.0	0.0	0.0	0.0	0.0	0.0

Montana State-Listed Priority 2B noxious weeds identified within the Kindsfater mitigation site in 2022 included spotted knapweed (*Centaurea stoebe*), Canada thistle (*Cirsium arvense*), leafy spurge (*Euphorbia esula*) field bindweed (*Convolvulus arvensis*), and isolated occurrences of salt cedar (*Tamarix chinensis*), and gypsy-flower (*Cynoglossum officinale*). Infestation areas, with the exception of isolated occurrences, were mapped in 2022 and are shown in Figure A-3 in 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. Noxious weed spraying at the Kindsfater site was conducted in October 2021 but not in 2022. The absolute cover of state-listed noxious weed species across the entire site was estimated at less than 5 percent in 2022, which narrowly meets the achievement threshold for this performance standard.

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. Each individual cluster was monitored in 2022, with the number of live plants counted and recorded by species. Approximately 14 percent of the observed plantings were alive during the 2022 evaluations, which is consistent with that observed in 2021. Low survival is likely a result of insufficient moisture availability when the plantings were initially installed. A few additional volunteer *Juniperus scopulorum*, *Rosa woodsii*, and *Shepherdia argentea* plants were observed during the June 2020-2022 monitoring events. Volunteer cover by species such as *Populus deltoides*, *Salix exigua*, and *Salix lutea* within wetland cells 13 and 14 exhibited a cover class of 5 (>50 percent), and within wetland cell 9 a cover class of 4 (21-50 percent). 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 2022 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. The site was generally wetter in 2022 than in 2021, as evidenced by the increase in wetland acreage and surface water. Shallow surface water was documented within all cells and ranged in depth from 1-36 inches. Constructed cells 1-3 were identified as open water areas in 2022, 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. Shallow groundwater 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. Two reactivated wetland areas that connect the upper terrace to the lower terrace were identified in 2022. Both of these connections were delineated as wetlands before the project was constructed in 2012.

Long-term groundwater monitoring 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 (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 from 2017 through 2019, a change in irrigation discharge, and/or dewatering practices from the nearby gravel operation. Precipitation accumulation for this area in 2022 was 10.99 inches from January through September, which is higher than the 9.6 inches reported in 2021 and lower than the 20-year historical average of 11.7 inches from January to September (NRCS 2022). Monitoring efforts completed by the USGS in 2022 show groundwater levels are relatively consistent with the previous few years and comparable to pre-2015 levels overall (Figure 1).

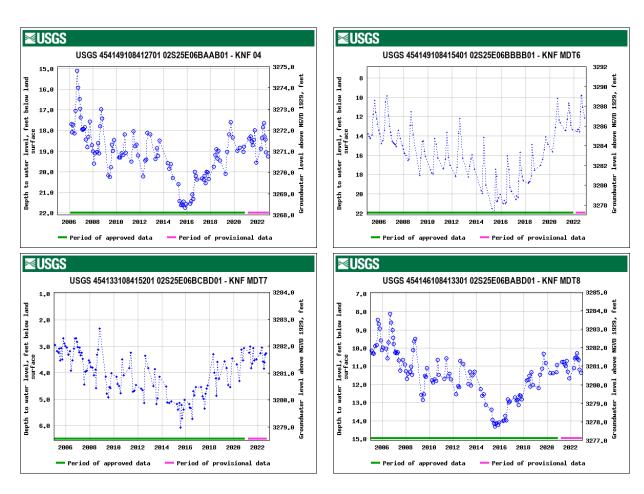


Figure 1. USGS Groundwater Well Data from 2006-2022

**Soils** – The Yellowstone County Soil Survey (NRCS, 2021) 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). Soil textures within wetland test pits ranged from sandy loam to clay. Hydric soil indicators were observed in all but two wetland test pits (DP02w and DP12w) because of extremely shallow soils (Appendix B). Hydric soil indicators included thick dark surface, sandy mucky mineral, loamy mucky mineral, depleted matrix, redox dark surface, and loamy gleyed matrix. Wetland test pits DP02w, and DP12w lacked hydric soil indicators but displayed wetland hydrology and vegetation indicators.

Soil textures within upland test pits ranged from loamy sand to clay. There were no hydric soil indicators observed in any upland test pits. Additional 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 2022 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 2022 results of the functional assessments are summarized in Table 6. A completed Montana Wetland Assessment Method (MWAM) form (Berglund and McEldowney, 2008) for the Kindsfater Site is provided in Appendix B. Overall, the existing and created wetlands are rated Category II wetlands. 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	2022 AA1 (Existing Wetlands)	2022 AA2 (Established (Created) Wetlands)
Listed/Proposed Threatened & Endangered (T&E) Species Habitat	Low (0)	Low (0)
Montana Natural Heritage Program Species (MTNHP) Habitat	High (0.9)	High (0.9)
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)	Low (0.3)
Recreation/Education Potential (bonus points)	High (0.2)	High (0.2)
Actual Points/Possible Points	6.1/9	5.9/9
% of Possible Score Achieved	67.78%	65.56%
Overall Category	II	II

<sup>\*</sup>AA1 – 'Existing Wetlands' includes Preserved, Restored, and Enhanced Wetland Areas

**Wildlife** – sixteen bird species were identified in 2022 across the site. In addition to the bird species, chorus frogs were heard in wetlands across the site, and white-tailed deer were observed.

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 2022. A total of 39.2 acres of wetland habitat were delineated at the Kindsfater site in 2022, including 5.9 acres of creation, 10.1 acres of reestablishment, 1.1 acres of rehabilitation, 3.0 acres of enhancement, and 19.1 acres of wetland preservation. A total of 47.2 acres, including 7.3 acres of upland buffer and 0.7-acre of open water, were used to calculate the mitigation credit acres. After applying the USACE-approved ratios to these values, a total of 24.7 acres of mitigation credits were estimated in 2022, which is 8.0 credit acres below the targeted 32.7 credit acres anticipated at this site. Wetland and aquatic habitat acreage has increased over the last three years and is expected to continue if groundwater elevations remain high across the site.

Table 7. Wetland Mitigation Credits Estimated for the Kindsfater Ranch Site (2019–2022)

Compensatory Mitigation Type	Mitigation Area Description	Wetland Type <sup>(a)</sup>	Anticipated Mitigation Surface Area (acres)	USACE- Approved Mitigation Ratios	Anticipated Mitigation Credit (acres)	2019 Delineated Acres	2019 Mitigation Credit (acres)	2020 Delineated Acres	2020 Mitigation Credit (acres)	2021 Delineated Acres	2021 Mitigation Credit (acres)	2022 Delineated Acres	2022 Mitigation Credit (acres)
Creation (Establishment)	Wetland Cells 7, 9, 13, & 14	Lacustrine emergent	4.6	1:1	4.6	4.7	4.7	4.9	4.9	5.3	5.3	5.9	5.9
Restoration (Reestablishment)	Wetland Cells 1–6 and partial Cell 18	Lacustrine emergent and Palustrine emergent, scrub-shrub	14.0	1:1	14.0	7.3	7.3	7.4	7.4	9.3	9.3	10.1	10.1
Restoration (Rehabilitation)	Areas adjacent to Wetland Cells 1–12	Palustrine emergent, scrub-shrub	9.2	1.5:1	6.1	1.0	0.7	1.1	0.7	1.1	0.8	1.1	0.7
Enhancement	Wetland Cells 10–12 & Partial Cell 8	Palustrine emergent, scrub-shrub	3.1	3:1	1.0	2.9	0.9	2.9	1.0	3.0	1.0	3.0	1.0
Preservation	Existing Wetland Areas	Palustrine emergent, scrub-shrub	21.9	4:1	5.5	17.4	4.4	18.4	4.6	18.8	4.7	19.1	4.8
Upland Buffer	50-foot-wide upland perimeter around the site boundary	N/A	7.3	5:1	1.5	7.3	1.5	7.3	1.5	7.3	1.5	7.3	1.5
Open Water	Wetland Cells 1, 2, and 3	Palustrine emergent, aquatic bed	N/A	1:1	N/A	N/A	N/A	0.4	0.4	0.5	0.5	0.7	0.7
(a) FCDC 2012	Total		60.1		32.7	40.6	19.5	42.4	20.5	45.3	23.0	47.2	24.7

<sup>(</sup>a) FGDC 2013.

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

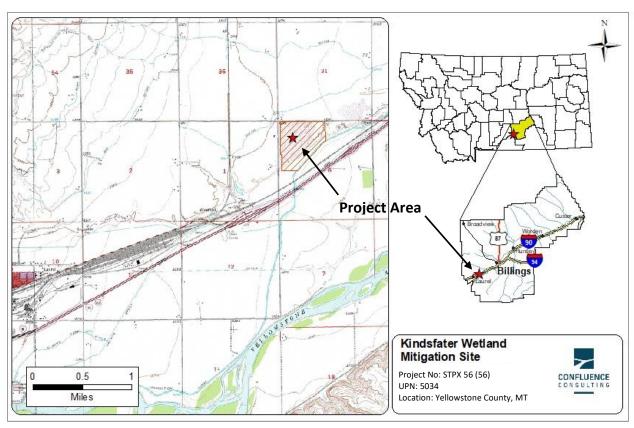
<u>Functional Unit Credits Summary</u> – The 2022 functional units summary is summarized in Table 8. A total of 133.6 functional units were generated at the Kindsfater site after applying the appropriate mitigation ratios to the 2022 wetland acreage and multiplying that value by the points generated from each assessment area.

Table 8. Functional Units Credit Summary for the Kindsfater Site

Mitigation Type	2022 Delineated Acreage	Ratio	2022 Mitigation Credit Acres	MWAM Actual Points	Functional Units
Creation (Establishment)	5.9	1:1	5.9	5.9	34.8
Restoration (Reestablishment)	10.1	1:1	10.1	5.9	59.6
Restoration (Rehabilitation)	1.1	1.5:1	0.7	5.9	4.1
Enhancement	3.0	3:1	1.0	5.9	5.9
Preservation	19.1	4:1	4.78	6.1	29.2
Functional Units (Mitigation Credit Acres × Actual Points)					133.6

# Maps, Plans, Photos

Figure 2. Site Location Map



**Project Area Maps/Figures:** See Appendix A (Figure A-2 – 2022 Monitoring Activity Locations; Figure A-3 – 2022 Mapped Site Features; and Figure A-4 – 2022 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**

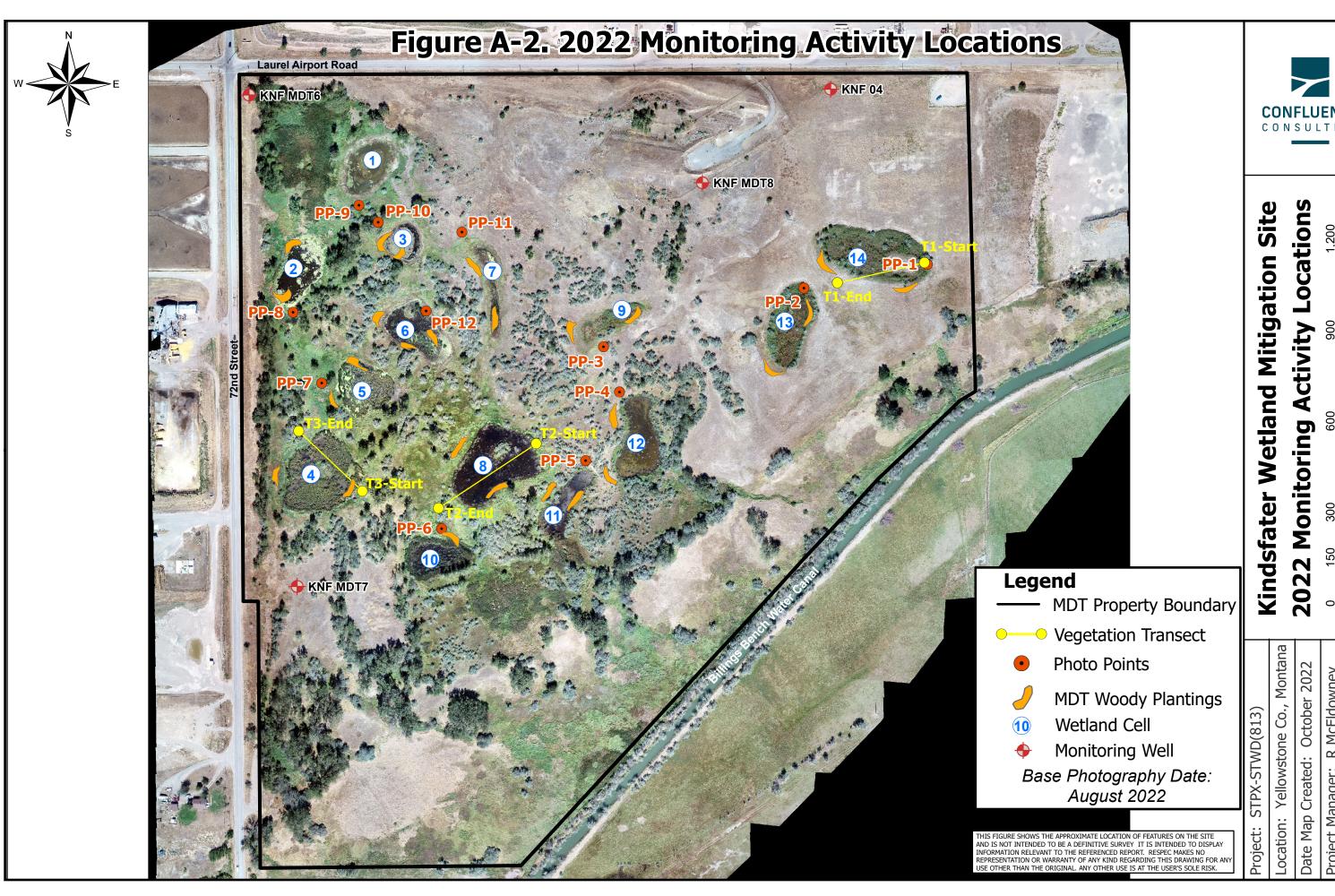
Based on the results of the tenth year of monitoring, the Kindsfater mitigation site is developing into a diverse wetland ecosystem. The site is meeting all but one of the project's performance standards. Woody planting survival was estimated at 14 percent in 2022. However, volunteer cover by species such as *Populus deltoides*, *Salix exigua*, and *Salix lutea* within wetland cells 13 and 14 exhibited a cover class of 5 (>50 percent), and within wetland cell 9 a cover class of 4 (21-50 percent). Of concern is the increase in cheatgrass (*Bromus tectorum*), which has been observed colonizing bare ground in seasonally flooded areas such as in cell 1. However, the site is slowly trending positively toward anticipated mitigation credit goals.

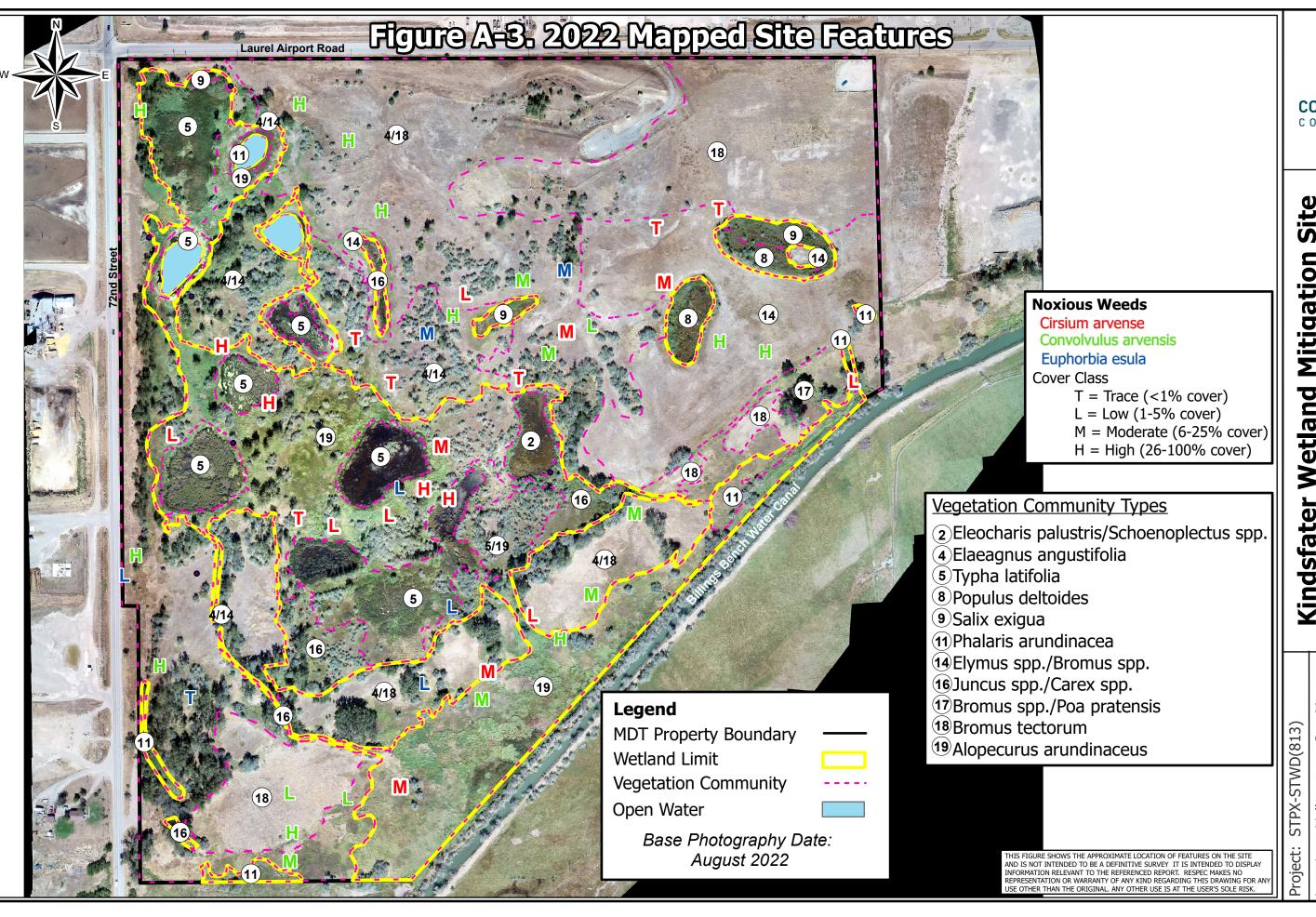
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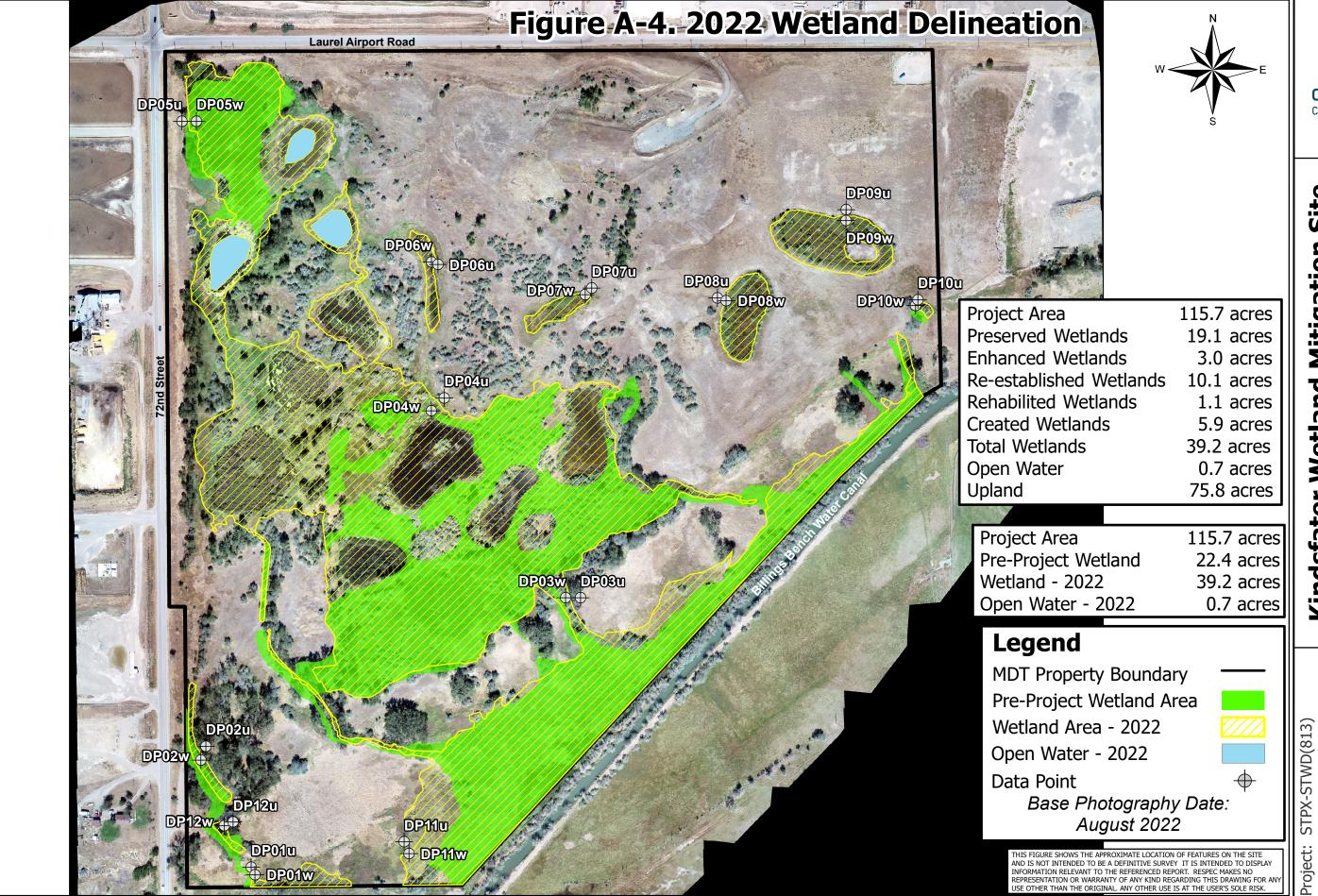
# APPENDIX A PROJECT AREA MAPS

MDT Wetland Mitigation Monitoring Kindsfater Yellowstone County, Montana





# Site Features Kindsfater Wetland Mitigation Mapped



# Kindsfater Wetland Mitigation **Delineation** Wetland

# APPENDIX B MONITORING FORMS

MDT Wetland Mitigation Monitoring Kindsfater Yellowstone County, Montana

# MDT WETLAND MITIGATION SITE MONITORING FORM

	Project Site:	Kindsfater		Assess	sment Date/Time		6/21/2022
		nducting the assessr					
	Weather: <u>80</u>	degrees, sunny		_Location:	Laurel, MT		
	MDT District:	Billings	N	1ilepost: <u>N</u> A	1		
		otion: T <u>2S</u> R <u>25E</u>					
	Initial Evaluat	ion Date <u>: 8/22/2013</u>	3Monit				
	Size of Evalu	ation Area: <u>115.7</u>	(acres)				
		rounding wetland:					
		and agriculture inc eedlot to the west.	uding a gra	avel mining	operation to the n	orth, hay fields	to the
			НҮІ	DROLOGY			
Surf	ace Water Sc	urce: Groundwate	r				
Inun	dation:	<u>✓</u> Average	Depth:	0.5 <b>(ft)</b>	Range of Depths:	0.1-3 <b>(f</b> f	<u>t)</u>
Perd	ent of assess	sment area under inc	ındation:	15 <u>%</u>			
Dep	th at emerger	nt vegetation-open w	ater bounda	ary:	0.4 <b>(ft)</b>		
If as	sessment are	a is not inundated th	en are the	soils satura	ted within 12 inches	of surface:	Yes
		hydrology on the si					
Sati sev	uration visible	e on aerial imagery etland cells, sulfidic hic position, and dr	, saturation odor, algal	to surface mats, soil	, shallow ponded v	vater/recent po	•
Gı	roundwater	Monitoring Wells					
Re	ecord depth	of water surface be	ow ground	surface, in	feet.		
W	ell ID	Water Surface	Depth (ft)				
K	NF 04	17.6					
K	NF MDT 8	10.3					
K	NF MDT6	13.6					
K	NF MDT7	3.84					

#### Additional Activities Checklist:

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

# **Hydrology Notes:**

There are several wells within this site that are monitored by the USGS and are included on Figure A-2. Depths are Below Land Surface (BLS) and measurements were taken by the USGS on 7/8/2022.

#### **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: 0.74

Species	Cover class	Species	Cover class
Alopecurus arundinaceus	1	Bare Ground	2
Carex pellita	2	Eleocharis palustris	1
Juncus balticus	1	Juncus compressus	1
Open Water	4	Phalaris arundinacea	2
Populus deltoides	1	Salix exigua	2
Salix lutea	1	Schoenoplectus acutus	2
Schoenoplectus pungens	2	Scirpus microcarpus	1
Гурha latifolia	1	Veronica anagallis-aquatica	1

#### Comments:

PEM wetland community. Area was reduced in size in 2022 due to an increase in open water. Cover of Eleocharis palustris was reduced in 2022.

Community # 4 Community Type: Elaeagnus angustifolia / Acres:

Species	Cover class	Species	Cover class
Bromus inermis	1	Bromus tectorum	2
Elaeagnus angustifolia	5	Elaeagnus commutata	1
Elymus repens	1	Elymus trachycaulus	1
Populus balsamifera	1	Populus deltoides	2

#### **Comments:**

Scrub-shrub and forested community interspersed throughout upland community types 14 and 18. Acreages for 4/14 and 4/18 mixed communities are 21.45 acres and 26.64 acres, respectively. Acreages for community types 4, 14, and 18 were not calculated for each individual community type.

Community # 5 Community Type: Typha latifolia / Acres: 9.69

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

#### **Comments:**

Pre-construction existing wetland community that has expanded from 2018 to 2022. This community is also interspersed throughout wetland CT 19, in a 1.70-acre area, which is not included in the 9.69 acre 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
Juncus gerardii	1	Lactuca serriola	0
Medicago lupulina	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:**

Natural encroachment of young Populus deltoides seedlings and saplings were the dominant species across several of the depressional wetlands. This CT slightly increased in acreage in 2022.

Community # 9 Community Type: Salix exigua / Acres: 1.02

Species	Cover class	Species	Cover class
Bare Ground	1	Bromus inermis	0
Carex praegracilis	1	Cirsium arvense	0
Eleocharis palustris	1	Elymus trachycaulus	1
Epilobium ciliatum	1	Juncus balticus	2
Juncus compressus	1	Nepeta cataria	0
Poa palustris	1	Populus deltoides	2
Salix exigua	4	Salix lutea	1
Schoenoplectus acutus	2	Schoenoplectus pungens	2
Scirpus microcarpus	1	Typha latifolia	1

# **Comments:**

Wetland CT first classified in 2016. Since 2016, it has continued to expand slowly across portions of the depressional wetlands, including NW of Cell 1 near N site boundary, Cell 9, and Cell 14.

Community # 11 Community Type: Phalaris arundinacea / Acres: 1.31

Species	Cover class	Species	Cover class
Alopecurus arundinaceus	2	Elymus repens	1
Phalaris arundinacea	5	Taraxacum officinale	0

#### **Comments:**

A significant decrease in this CT was observed in 2022 due to an increase an increase in new CT 19.

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

Species	Cover class	Species	Cover class
Agropyron cristatum	1	Alopecurus arundinaceus	0
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	0
leterotheca villosa	0	Lactuca serriola	0
arrubium vulgare	0	Medicago lupulina	0
lelilotus officinalis	0	Nassella viridula	1
ascopyrum smithii	1	Phalaris arundinacea	0
oa compressa	0	Poa pratensis	1
chedonorus pratensis	1	Sisymbrium loeselii	1
Sonchus arvensis	0	Sporobolus cryptandrus	0
hlaspi arvense	1	Tragopogon dubius	1
erbascum thapsus	0		

#### **Comments:**

Upland CT first classified in 2018 that has continued to expand across upland areas at the site in 2022. Much of the area that was classified at CT 14 and 4/14 in 2021 was converted to new CT 18 and 4/18 due to Bromus tectorum becoming the dominant herb in these areas. This CT primarily exists 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: 3.16

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

#### **Comments:**

Wetland CT first classified in 2018 where Juncus spp. had replaced small areas of CT 5 and CT 2. In 2019 Carex spp. was added as a codominant. This CT was largely unchanged in 2022.

Community #	17	Community Type:	Bromus spp. / Poa pratensis	Acres:	1.74
-------------	----	-----------------	-----------------------------	--------	------

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

#### **Comments:**

CT 17 was significantly reduced in size due to the new CT 18 replacing a large portion of this CT in 2022.

Community # 18 Community Type: Bromus tectorum / Acres: 14.99

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:**

This new CT replaced many areas of CTs 4/14, 4/15,15, and 17 due to the increased dominance of Bromus tectorum throughout much of the drier portions of the site. Bromus tectorum within the new CT accounts for 50-100 percent of the herbaceous cover within this CT. The prevalence of Bromus tectorum has increased throughout the years and is expected to replace more of CTs 4/14, 14, and 17 in the future. The acreage reported for this CT does not include 26.44 acres identified as 4/18.

Community # 19 Community Type: Alopecurus arundinaceus / Acres: 20.89

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 utriculata	1
Cirsium arvense	0	Conium maculatum	1
Convolvulus arvensis	0	Elaeagnus angustifolia	3
Eleocharis palustris	0	Elymus repens	3
Elymus trachycaulus	1	Juncus balticus	2
Lactuca serriola	0	Lycopus asper	1
Mentha arvensis	0	Pascopyrum smithii	1
Persicaria amphibia	0	Phalaris arundinacea	1
Poa palustris	0	Poa pratensis	3
Populus deltoides	2	Salix lutea	0
Schedonorus pratensis	1	Schoenoplectus acutus	1
Schoenoplectus pungens	1	Sisymbrium loeselii	0
Sonchus arvensis	1	Taraxacum officinale	0
Thlaspi arvense	0	Tragopogon dubius	0
Typha latifolia	0		

#### **Comments:**

New wetland community in 2022. This community replaced former wetland CT 3 because Poa palustris was nearly absent from the site in 2022. In addition to replacing CT3, this CT also replaced some of CT 11 due to the decrease in Phalaris arundinacea at the SE boundary of the site.

**Total Vegetation Community Acreage** 

65.74

# **VEGETATION TRANSECTS**

Kindstater		Date:	6/21/2022	
Transect Number: _	1 Com	oass Direction from St	art: <u>240</u>	
Interval Data:				
Ending Station	35 Community Typ	e: Salix exigua /		
Species	Cover class	Species	Cover class	
Bare Ground	0	Carex praegracilis	2	
Juncus balticus	2	Juncus compressus	1	
Populus deltoides	2	Salix exigua	5	
Salix lutea	1	Schoenoplectus pungens	1	
Ending Station 1	18 Community Typ	e: Elymus spp. / Bromus spp.		
Species	Cover class	Species	Cover class	
Agropyron cristatum	1	Bare Ground	3	
Bromus inermis	2	Bromus japonicus	0	
Bromus tectorum	4	Cirsium arvense	1	
Convolvulus arvensis	2	Elymus repens	1	
Elymus trachycaulus	0	Heterotheca villosa	1	
Lactuca serriola	1	Marrubium vulgare	1	
Nassella viridula	3	Sporobolus cryptandrus	2	
Verbascum thapsus	0			
Ending Station 2	26 Community Typ	e: Populus deltoides /		
Species	Cover class	Species	Cover class	
Asclepias speciosa	1	Bare Ground	0	
Bromus inermis	1	Carex nebrascensis	0	
Carex praegracilis	2	Cirsium arvense	1	
Convolvulus arvensis	1	Elaeagnus angustifolia	1	
Eleocharis palustris	2	Elymus repens	0	
Elymus trachycaulus	1	Juncus balticus	2	
Lactuca serriola	1	Medicago lupulina	0	
Poa palustris	1	Populus deltoides	4	
Salix exigua	5	Salix lutea	3	
Schoenoplectus pungens	1	Sonchus arvensis	1	
Taraxacum officinale	0			

**Ending Station** 300 **Community Type:** Elymus spp. / Bromus spp.

Species	Cover class	Species	Cover class
Agropyron cristatum	0	Bare Ground	2
Bromus inermis	2	Bromus japonicus	1
Bromus tectorum	3	Cirsium arvense	1
Convolvulus arvensis	1	Erodium cicutarium	1
Lactuca serriola	0	Medicago lupulina	0
Nassella viridula	2	Poa compressa	1
Poa pratensis	0	Salix exigua	1
Sonchus arvensis	0	Sporobolus cryptandrus	1

# Transect Notes:

Start of transect was found to be within Salix sp. in 2022. It appears in previous years the transect started within the upland communities surrounding the willows in error.

Transect Number: 2 Compass Direction from Start: 225

**Interval Data:** 

Ending Station 11 Community Type: Alopecurus arundinaceus /

Species	Cover class	Species	Cover class
Alopecurus arundinaceus	3	Carex pellita	1
Cirsium arvense	1	Elaeagnus angustifolia	3
Elymus repens	2	Juncus balticus	1
Phalaris arundinacea	4	Poa palustris	1
Salix lutea	0	Schoenoplectus pungens	1
Taraxacum officinale	1		

Ending Station 334 Community Type: Typha latifolia /

Species	Cover class	Species	Cover class
Alopecurus arundinaceus	1	Bare Ground	2
Carex nebrascensis	0	Carex pellita	0
Juncus balticus	0	Juncus compressus	1
Lemna minor	0	Open Water	5
Salix exigua	0	Salix lutea	1
Schoenoplectus acutus	1	Schoenoplectus pungens	1
Stuckenia pectinata	0	Typha latifolia	2
Veronica anagallis-aquatica	1		

Ending Station 388 Community Type: Alopecurus arundinaceus /

Species	Cover class	Species	Cover class
Alopecurus arundinaceus	5	Bare Ground	1
Cirsium arvense	1	Elaeagnus angustifolia	2
Juncus balticus	1	Phalaris arundinacea	1
Poa pratensis	3	Populus deltoides	1

# Transect Notes:

Transect changed significantly in 2022 due to most of the transect being inundated with water which reduced the coverage of wetland species within the inundation area.

Transect Number: 3 Compass Direction from Start: 290

**Interval Data:** 

Ending Station 27 Community Type: Alopecurus arundinaceus /

Species	Cover class	Species	Cover class
Alopecurus arundinaceus	5	Bare Ground	0
Carex aquatilis	1	Carex utriculata	1
Persicaria amphibia	1	Phalaris arundinacea	1
Poa pratensis	2	Schoenoplectus acutus	1
Typha latifolia	1		

Ending Station 243 Community Type: Typha latifolia /

Species	Cover class	Species	Cover class
Alopecurus arundinaceus	1	Bare Ground	1
Carex aquatilis	1	Carex utriculata	1
Open Water	2	Persicaria amphibia	1
Phalaris arundinacea	1	Schoenoplectus acutus	3
Typha latifolia	5		

Ending Station 292 Community Type: Alopecurus arundinaceus /

Species	Cover class	Species	Cover class
Alopecurus arundinaceus	3	Bare Ground	1
Convolvulus arvensis	1	Elaeagnus angustifolia	1
Elymus repens	3	Phalaris arundinacea	3
Poa pratensis	1	Schedonorus pratensis	2
Sisymbrium loeselii	1	Taraxacum officinale	1
Tragopogon dubius	0		

# Transect Notes:

Most of transect appears to be more inundated than in previous years which resulted in a slight decrease of vegetation cover within the inundation area.

# **PLANTED WOODY VEGETATION SURVIVAL**

# Kindsfater

Planting Type	#Planted	#Alive	Notes
Cornus alba	130	0	
Crataegus douglasii	50	0	
Juniperus scopulorum	50	7	
Populus spp.	140	45	
Prunus virginiana	50	0	
Rosa woodsii	50	2	
Salix spp.	2800	415	Salix exigua best survival
Shepherdia argentea	50	2	
TOTAL	3320	472	~14% survival

# 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. During the 2022 monitoring, each individual planting group was monitored and live woody plants were counted by species. Approximately 14% of the planted woody plants were alive in 2022. Salix spp. and Populus spp. volunteers are filling in around several wetland cells. No change from 2021.

# Kindsfater

# **WILDLIFE**

Birds
-------

Were man-made nesting structures installed?	No_
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 Coot	2			
American Wigeon	2			
Barn Swallow	2			
Eastern Kingbird	2			
Great Blue Heron	1			
Kingfisher	1			
Mallard	15			
Red-tailed Hawk	1			
Red-winged Blackbird	45			
Ring-necked Pheasant	1			
Rock Pigeon	2			
Sandhill Crane	3			
Tree Swallow	12			
Yellow Warbler	5			
Yellow-headed Blackbird	d 3			
Bird Comments				
Abundance of birds observe	d.			

# BEHAVIOR CODES

**BP** = One of a <u>breeding pair</u> **BD** = <u>Breeding display</u> **F** = <u>Foraging</u> **FO** = <u>Flyover</u> **L** = <u>Loafing</u> **N** = <u>Nesting</u>

# **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 frogs 5 No No No White-tailed Deer 5 No No No

# Wildlife Comments:

This site provides a diversity of habitat features for bird and other wildlife.

#### 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	45.6900802336	-108.698205335			
DP01w	45.6900154272	-108.698160944			
DP02u	45.6911205117	-108.698745795			
DP02w	45.691002	-108.698809			
DP03u	45.692359833	-108.694143141			
DP03w	45.6923621695	-108.694325721			
DP04u	45.6940866367	-108.695785155			
DP04w	45.6939758369	-108.69594475			
DP05u	45.6964817294	-108.698960098			
DP05w	45.6964806162	-108.698781856			
DP06u	45.6952313368	-108.695845299			
DP06w	45.6952547663	-108.695922994			
DP07u	45.6950151108	-108.693966692			
DP07w	45.6949613873	-108.694046955			
DP08u	45.6949200192	-108.692429852			
DP08w	45.6948962881	-108.69232316			
DP09u	45.6968233172	-108.692058699			
DP09w	45.6969674436	-108.692092404			
DP10u	45.6948859713	-108.689977235			
DP10w	45.6948399696	-108.690007833			
DP11u	45.6902833164	-108.696331532			
DP11w	45.6901823569	-108.696272837			
DP12u	45.6904682345	-108.698421515			
DP12w	45.6904387448	-108.69852863			
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
<b>✓</b> [	Map vegetation community boundaries
✓ (	Complete Vegetation Transects
	Soils
✓ ,	Assess soils
	Wetland Delineations
<b>✓</b>	Delineate wetlands according to applicable USACE protocol (1987 form or
<b>y</b>	oplement) Delineate wetland – upland boundary onto aerial photograph.
We	etland Delineation Comments
	The total wetland acreage delineated in 2022 was 39.2 acres, which is a 1.7-acre increase from the 2021 acreage (37.5 acres).
1	Functional Assessments
<b>✓</b> forr	Complete and attach full MDT Montana Wetland Assessment Method field ms.
Fur	nctional Assessment Comments:
	Overall the existing and created wetlands rate as Category 3 wetlands.

#### 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.

Fence near the MDT green entrance gate along the southwest boundary is down and needs repair. Unchanged from 2021.

Project/Site: Kindsfater	City/County:	Yellowsto <u>ne</u>		Sampling Date: _	6/21/2022
			State: Montana		
Investigator(s): S Weyant				25E	
Landform (hillslope, terrace, etc.): Toeslope					25
Subregion (LRR): LRR F Lat:					
			NWI classifica		;u
Are climatic / hydrologic conditions on the site typical for this time of ye					
Are Vegetation, Soil, or Hydrology significantly	disturbed?	Are "Norma	I Circumstances" pr	resent? Yes <u> </u>	No _ <u> </u>
Are Vegetation, Soil, or Hydrology naturally pro	oblematic?	(If needed,	explain any answer	s in Remarks.)	
SUMMARY OF FINDINGS – Attach site map showing	sampling	point location	ons, transects,	important fea	atures, etc.
Hydrophytic Vegetation Present? Yes No ✓   Hydric Soil Present? Yes No ✓   Wetland Hydrology Present? Yes No ✓		Sampled Area a Wetland?	Yes	No <u> </u>	
Remarks: Upland data point located near SW boundary of the s	site.				
VEGETATION - Use scientific names of plants					
Tree Stratum Plot size (30 Foot Radius) Absolute Domiant % Cover: Species		Dor	minance Test work	<b>csheet</b>	
			mber of Dominant S t are OBL, FACW or		0 (A)
			al Number of Domir ecies Across All Stra	nant ata: 2	2 (B)
Sapling/Shrub Stratum Plot size (15 Foot Radius)			rcent of Dominant S at Are OBL, FACW,		0 % (A/B)
<u>Japhing/on ab dutam</u> Fiot 5/25 (13 Foot readist)		Pre	valence Index wor	rksheet	
			Total % Cover of:		Itiply by:
			•	0 X1	0
			•	10 X2 0 X3	<u>20</u> 0
					360
Herbaceous Stratum Plot size ( 5 Foot Radius)	E ^ O\			0 X5	0
Alopecurus arundinaceus 5	FACU FACU	Col	umn Totals 10	00 (A)	380 (B)
Elymus lanceolatus 70  Elymus repens 20	FACU				3.80
Phalaris arundinacea 5	FACW		Prevalence Index		3.00
Triulatio di ariamatoca	17.0	Hyd	drophytic Vegetatio	<b>on Indicators</b> for Hydrophytic Ve	totion
					getation
			2 - Dominance		
			3 - Prevalence	Index is <= 3.0	
				cal Adaptations (Pi a in remarks or on	
				n-Vascular Plants	
				drophytic Vegetati	
Woody Vine Stratum Plot size ( 30 Foot Radius)			ators of hydric sil an ent, unless disturbed	nd wetland hydrolo	ngy must be
		Нус	drophytic Vegetations	on —	NO 🗹
Percent Bare Ground 0 Remarks:					
Data point is dominated by upland vegetation.					

(inches)		Matrix				Features		. 2	- <b>-</b> -	
	Color (		%		(moist)		Type <sup>1</sup>	Loc <sup>2</sup> _	<u>Texture</u>	Remarks
)-16	10YR	3/2	98	7.5YR	6/6	2	С	M	Sandy Loam	soil dry
6-24	7.5YR	4/1	95	10YR	5/6	5	С	PL	Sandy Loam	soil dry
vpe: C=C	oncentratio	n. D=Dep		=Reduced	d Matrix, CS	=Covered	or Coate	ed Sand (		tion: PL=Pore Lining, M=Matrix.
					nless other			ou ounu c		or Problematic Hydric Soils <sup>3</sup> :
Black Hi Hydroge Stratified 1 cm Mu Depleted Thick Da Sandy M	oipedon (A	A4)  ,5) (LRR FRR F, G, Interpretation of the content of the conte	H) e (A11) S2) (LRR	-	Sandy R Stripped Loamy M Loamy G Depleted Redox D Depleted Redox D High Pla	leyed Mated Mated Selection (S6) Matrix (S6) Mucky Mine Selection (S6) Matrix (F6) Matrix	6) eral (F1) trix (F2) 3) ce (F6) face (F7 s (F8) ssions (F	) <del>-</del> 16)	Coast Pr Dark Sur High Pla (LRR Reduced Very Sha Other (E	rack (A9) (LRR I, J) rairie Redox (A16) (LRR F, G, H) rface (S7) (LRR G) ins Depressions (F16) rface (F16) rface (F18) rface (F18) rface (F18) rface (TF12) rface
	Laver (if p	resent):								1
Туре:										
Type: Depth (inc	ches):				a wara aha	on od wi	thin the	matrix a		resent? Yes No
Type: Depth (ind emarks: Al hy	ches): Ithough re yric soil in	doximor	ohic cond	entration	s were obs	served wii	thin the	matrix a		
Type: Depth (ind emarks: Al hy	ches): Ithough re yric soil in	doximor dicators v	ohic cond	entration	s were obs	served wit	thin the	matrix a		
Type: Depth (inc demarks: Al hy    /DROLO  /etland Hyd	ches): Ithough re yric soil in GY drology In	doximorp dicators v	ohic cond was met.	centration			thin the	matrix a	and dead pore lir	nings, none of the criteria for any
Type: Depth (independent of the property o	ches): Ithough re yric soil in  GY drology In eators (min Water (A1) ater Table ( on (A3)	dicators v	ohic cond was met.	centration	all that apply Salt Crust ( Aquatic Inv Hydrogen S	) B11) ertebrates Sulfide Odd	(B13) or (C1)		Secondary Surface Spars	v Indicators (minimum of two requirects Soil Cracks (B6) ely Vegetated Concave Surface (Bage Patterns (B10)
Type: Depth (independent of the property)  TDROLOGIC Tetland Hydromary Indicate   Surface   High Wall   Saturation   Water Management   Sediment   Se	ches): Ithough record soil in the content of	dicators vidicators:	ohic cond was met.	centration	all that apply Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized R	) B11) ertebrates Sulfide Odo n Water Ta hizosphere	(B13) or (C1) able (C2)	)	Secondary Surface Spars Draina Oxidizes (C3)	nings, none of the criteria for an an analysis in an analysis in a large region of two requires to Soil Cracks (B6) and Vegetated Concave Surface (Bage Patterns (B10) and Rhizospheres on Living Roots (Bere tilled)
Type: Depth (independent of the content of th	GY drology In eators (min Water (A1) ater Table ( on (A3) larks (B1) nt Deposits posits (B3) at or Crust	dicators vidicators vidicators: imum of o A2) (B2)	ohic cond was met.	centration	all that apply Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized R (where n	) B11) ertebrates Sulfide Odd n Water Ta hizosphere ot tilled) f Reduced	(B13) or (C1) able (C2) es on Liv	) ving Roots	Secondary Surface Spars Draina Oxidiz S (C3) Crayfi Satura	r Indicators (minimum of two required to Soil Cracks (B6) ely Vegetated Concave Surface (Bage Patterns (B10) ted Rhizospheres on Living Roots (ere tilled) sh Burrows (C8) ation Visible on Aerial Imagery (C9)
Type: Depth (independent of the content of the	ches):lthough recyric soil in	dicators of the dicators of th	ohic cond was met.	ed; check a	all that apply Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized R (where n	) B11) ertebrates Sulfide Odo n Water Ta hizosphere ot tilled) f Reduced Surface (C	(B13) or (C1) able (C2) es on Liv d Iron (C	) ving Roots	Secondary Surface Spars Draina Oxidiz S (C3) (where secondary Crayfi Satura V Geom	nings, none of the criteria for an Indicators (minimum of two requires Soil Cracks (B6) ely Vegetated Concave Surface (Bage Patterns (B10) ared Rhizospheres on Living Roots (ere tilled) sh Burrows (C8)
Type: Depth (independent of the property	GY drology In eators (min Water (A1) ater Table ( on (A3) larks (B1) at Deposits posits (B3) at or Crust posits (B5)	dicators vidicators vidicators: imum of o (B2) (B4) on Aerial I	ohic cond was met.	ed; check a	all that apply Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized R (where n Presence o	) B11) ertebrates Sulfide Odo n Water Ta hizosphere ot tilled) f Reduced Surface (C	(B13) or (C1) able (C2) es on Liv d Iron (C	) ving Roots	Secondary Surface Spars Draina Oxidiz S (C3) (who	v Indicators (minimum of two required to Soil Cracks (B6) ely Vegetated Concave Surface (Bage Patterns (B10) ted Rhizospheres on Living Roots (ere tilled) sh Burrows (C8) ation Visible on Aerial Imagery (C9) torphic Position (D2)
Type:	ches):	dicators vidicators vidicators: imum of o (B2) (B4) on Aerial I	ohic cond was met.	ed; check a	all that apply Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized R (where n Presence o	) B11) ertebrates Sulfide Odo n Water Ta hizosphere ot tilled) f Reduced Surface (C	(B13) or (C1) able (C2) es on Liv d Iron (C	) ving Roots	Secondary Surface Spars Draina Oxidiz S (C3) (who	A Indicators (minimum of two required to Soil Cracks (B6) ely Vegetated Concave Surface (Bage Patterns (B10) ted Rhizospheres on Living Roots (ere tilled) sh Burrows (C8) ation Visible on Aerial Imagery (C9) torphic Position (D2) Neutral Test (D5)
Type:	GY  drology In eators (min Water (A1) ater Table ( on (A3) larks (B1) at Or Crust posits (B3) at or Crust posits (B5) on Visible of tained Lea vations:	dicators of dicators of dicators of dicators of dicators of dicators of dicators:  (Ba)  (Ba)  (Ba)  (Ba)  (Ba)  (Ba)  (Ba)	ne require	ed; check a	all that apply Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized R (where n Presence o Thin Muck	B11) ertebrates Sulfide Odo n Water Ta hizosphere ot tilled) f Reduced Surface (Clain in Ren	(B13) or (C1) able (C2) es on Liv d Iron (C C7) narks)	) ving Roots 4)	Secondary Surface Spars Draina Oxidiz S (C3) (who	A Indicators (minimum of two required to Soil Cracks (B6) ely Vegetated Concave Surface (Bage Patterns (B10) ted Rhizospheres on Living Roots (ere tilled) sh Burrows (C8) ation Visible on Aerial Imagery (C9) torphic Position (D2) Neutral Test (D5)
Type: Depth (ind emarks: Al formarks: Al formary Indice	ches):	dicators vidicators vidicators vidicators vidicators vidicators vidicators:  dicators:  imum of o  A2)  (B2)  (B2)  (B4)  on Aerial II  ves (B9)	magery (E	ed; check a	all that apply Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized R (where n Presence of Thin Muck Other (Expl	) B11) ertebrates Sulfide Odo n Water Ta hizosphere ot tilled) f Reduced Surface (C ain in Ren hes):	(B13) or (C1) able (C2) es on Liv d Iron (C C7) narks)	) ving Roots 4)	Secondary Surface Spars Draina Oxidiz S (C3) (who	A Indicators (minimum of two required social Cracks (B6) age Patterns (B10) are distributed Rhizospheres on Living Roots (ere tilled) sh Burrows (C8) ation Visible on Aerial Imagery (C9) arorphic Position (D2) Neutral Test (D5) Heave Hummocks (D7) (LRR F)
Depth (indexembre) Proposed Algal Mallor Depth (and Hydron Depth (	drology In Cators (min Water (A1) Arter Table (Don (A3) Arter (B3) Arter (B4) Arter (B5)	dicators vidicators vi	magery (E	centration  ed; check a	all that apply Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized R (where n Presence of Thin Muck Other (Expl	B11) ertebrates Sulfide Odo n Water Ta hizosphere ot tilled) f Reduced Surface (Clain in Ren hes): hes):	(B13) or (C1) able (C2) es on Liv d Iron (C C7) narks)	) ving Roots 4) — We	Secondary Surface Spars Draina Oxidiz S (C3) (who	A Indicators (minimum of two required to Soil Cracks (B6) age Patterns (B10) are Rhizospheres on Living Roots (Bere tilled) sh Burrows (C8) ation Visible on Aerial Imagery (C9) arorphic Position (D2) Neutral Test (D5) Heave Hummocks (D7) (LRR F)

Project/Site: Kindsfater	City/County: Yellows	stone Sampling D	Date: 6/21/2022
		State: Montana Sampling P	
Investigator(s): S Weyant			
Landform (hillslope, terrace, etc.): Toeslope			
Subregion (LRR): LRR F Lat:			
Subregion (LKK): Lat Lat Lat Lat	70.0000	Long: Not r	nannad
Soil Map Unit Name: Ll: Larim gravelly loam, 15-35% slopes		NWI classification: Technology	арреч
Are climatic / hydrologic conditions on the site typical for this time of year			
Are Vegetation, Soil, or Hydrology significantly			
Are Vegetation, Soil, or Hydrology naturally pr	oblematic? (If n	leeded, explain any answers in Remark	(s.)
SUMMARY OF FINDINGS – Attach site map showing	g sampling point	locations, transects, importa	nt features, etc.
Hydrophytic Vegetation Present?  Hydric Soil Present?  Wetland Hydrology Present?  Yes  No  No  Remarks: Wetland data point located near SW boundary of the	within a Wetla	d Area and? Yes <u>✔</u> No _	<u></u>
VEGETATION - Use scientific names of plants			
Tree Stratum Plot size (30 Foot Radius) Absolute Domian		Dominance Test worksheet	
Iree Stratum Piot size (30 Foot Radius) % Cover: Species	s? Status	Number of Dominant Species that are OBL, FACW or FAC:	2 (A)
		Total Number of Dominant Species Across All Strata:	3 (B)
Sapling/Shrub Stratum Plot size (15 Foot Radius)		Percent of Dominant Species That Are OBL, FACW, or FAC:	66.7 % (A/B)
oupming on an ordinary		Prevalence Index worksheet	
		Total % Cover of:	Multiply by:
		OBL species 0 X 1 FACW species 45 X 2	0
		FACW species 45 X 2 FAC species 0 X 3	90
State (5 Foot Bullion)		FACU species 55 X 4	220
Herbaceous Stratum Plot size ( 5 Foot Radius)	FACW	UPL species 0 X 5	0
Alopecurus arundinaceus 25  Elymus repens 40	FACU FACU	Column Totals 100 (A)	310 (B)
Elymus repens 40  Elymus trachycaulus 15	FACU FACU		3.10
Phalaris arundinacea 20	FACW	Prevalence Index = B/A =	
Titalans aranamassa 25 (v)	171044	Hydrophytic Vegetation Indicato	
		1 - Rapid Test for Hydroph	
		✓ 2 - Dominance Test is >50	
		3 - Prevalence Index is <=	3.0
		4 - Morphological Adaptation supporting data in remarks sheet.	
		5 - Wetland Non-Vascular	Plants
		Problematic Hydrophytic V	
Woody Vine Stratum Plot size ( 30 Foot Radius)		Indicators of hydric sil and wetland h present, unless disturbed or problem	nydrology must be
Developed Developed 0		Hydrophytic Vogotation	NO □
Percent Bare Ground 0 Remarks:			
Evidence of hydrophytic vegetation includes a positive domin	ance test.		

SOIL Sampling Point: DP01w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Color (moist) Loc<sup>2</sup> Color (moist) Texture (inches) Remarks 0-03 2.5/1 100 7.5YR Sandy Loam Fine roots 0.3 - 147.5YR 2.5/1 100 Sandy Loam 4/0 D 14-20 10YR 5/1 91 Ν 7 M Sandy Clay Loam 2 С M 14-20 **10YR** 6/8 Sandy Clay Loam <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils<sup>3</sup>: Histosol (A1) 1 cm Muck (A9) (**LRR I, J**) Sandy Gleyed Matrix (S4) Histic Epipedon (A2) Sandy Redox (S5) Coast Prairie Redox (A16) (LRR F, G, H) Stripped Matrix (S6) Black Histic (A3) Dark Surface (S7) (LRR G) Loamy Mucky Mineral (F1) High Plains Depressions (F16) Hydrogen Sulfide (A4) (LRR H outside of MLRA 72 & 73) Stratified Layers (A5) (LRR F) Loamy Gleyed Matrix (F2)  $\perp$  1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) Reduced Vertic (F18) Redox Dark Surface (F6) Red Parent Material (TF2) Depleted Below Dark Surface (A11) ✓ Thick Dark Surface (A12) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Sandy Mucky Mineral (S1) Redox Depressions (F8) High Plains Depressions (F16) <sup>3</sup>Indicators of hydrophytic vegetation and 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) 5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H) wetland hydrology must be present. unless disturbed or problematic. Restrictive Layer (if present): Type: **Hydric Soil Present?** Depth (inches): Remarks: Prominent redoximorphic concentrations and depletions common below a thick dark surface. **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Salt Crust (B11) Surface Soil Cracks (B6) High Water Table (A2) Aquatic Invertebrates (B13) Sparsely Vegetated Concave Surface (B8) Saturation (A3) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) Water Marks (B1) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Drift Deposits (B3) (where not tilled) Crayfish Burrows (C8) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Thin Muck Surface (C7) ✓ Geomorphic Position (D2) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Frost-Heave Hummocks (D7) (LRR F) Field Observations: Yes No Depth (inches): \_ Surface Water Present? Yes \_\_\_\_ No \_\_\_ Depth (inches): Water Table Present? Wetland Hydrology Present? Yes Saturation Present? \_\_ No \_\_**✓** Depth (inches): \_\_\_ (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Evidence of wetland hydrology includes geomorphic position and a positive FAC-Neutral test.

Project/Site: Kindsfater		(	City/County:	Yellowstone		Sampling Date	6/21/2022
Applicant/Owner: MDT					State: Montana		
				wnship, Range: _		25	
Landform (hillslope, terrace, etc.): <u>Undulating</u>							
					g:10		
Soil Map Unit Name: Ll: Larim gravelly loan					NWI classific	ation: NOLINAP	pea
Are climatic / hydrologic conditions on the site							
Are Vegetation, Soil, or Hydrol	logy siç	gnificantly o	disturbed?	Are "Norm	al Circumstances" p	resent? Yes _	<u> </u>
Are Vegetation $ igsqcup igsqcup ,$ Soil $ igsqcup igsqcup ,$ or Hydrol	logy na	aturally prof	blematic?	(If needed	, explain any answer	rs in Remarks.)	
SUMMARY OF FINDINGS – Attach	ı site map s	howing	sampling	g point locat	ions, transects	, important	features, etc.
Hydrophytic Vegetation Present? Ye Hydric Soil Present? Ye Wetland Hydrology Present? Ye Remarks: Upland data point located in co	es D No		withi		Yes	No 🔽	
VEGETATION - Use scientific nan  Tree Stratum Plot size (30 Foot Radius	Absolute	Domiant		r Do	ominance Test wor	ksheet	
Populus deltoides	20	Species?	FAC		umber of Dominant S		1 (A)
Fopulus delitoldes			FAU		at are OBL, FACW o		1 (A)
					otal Number of Domi pecies Across All Str		4 (B)
					ercent of Dominant S nat Are OBL, FACW,		25.0 % (A/B)
Sapling/Shrub Stratum Plot size (15					evalence Index wo		
Elaeagnus angustifolia	5	✓	FACU		Total % Cover of		Multiply by:
				OF	BL species	0 X1	0
				FA	ACW species	3 X2	6
					•	21 X3	63
Herbaceous Stratum Plot size ( 5	Foot Radius)				•	25 X4 70 X5	100
Bromus inermis	25	<b>✓</b>	UPL		PL species	/U X5	350
Bromus tectorum	45	<b>✓</b>	UPL	Co	olumn Totals 1	19 (A)	519 (B)
Dactylis glomerata	3		FACU		Prevalence Index	c = B/A =	4.36
Elymus repens	5		FACU	_   <del>  H</del> \	ydrophytic Vegetati	ion Indicators	
Galium aparine	5		FACU	_   ``		for Hydrophytic	Vegetation
Lactuca serriola	1		FAC		2 - Dominance		Ü
Phalaris arundinacea	3		FACW	_		Index is <= 3.0	
Poa pratensis	5		FACU	_			
Thlaspi arvense	2		FACU			cal Adaptations a in remarks or	
					5 - Wetland No	n-Vascular Plar	nts
					☐ Problematic Hy	drophytic Vege	tation (Explain)
Woody Vine Stratum Plot size ( 30	Foot Radius)				cators of hydric sil an sent, unless disturbe	nd wetland hydr	ology must be
Percent Bare Ground 5					ydrophytic Vegetati esent?	ion Yes	□ NO 🔽
Remarks:							
Data point is dominated by upland vege	tation.						

SOIL Sampling Point: DP02u Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features % Loc<sup>2</sup> Color (moist) Color (moist) Texture Remarks (inches) 0-06 10YR 3/2 100 Cobbly. Woody roots Sandy Loam Rock refusal 6+ Cobble bottom <sup>2</sup>Location: PL=Pore Lining, M=Matrix. <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils<sup>3</sup>: Histosol (A1) 1 cm Muck (A9) (**LRR I, J**) Sandy Gleyed Matrix (S4) Histic Epipedon (A2) Sandy Redox (S5) Coast Prairie Redox (A16) (LRR F, G, H) Stripped Matrix (S6) Black Histic (A3) Dark Surface (S7) (LRR G) Loamy Mucky Mineral (F1) High Plains Depressions (F16) Hydrogen Sulfide (A4) (LRR H outside of MLRA 72 & 73) Stratified Layers (A5) (LRR F) Loamy Gleyed Matrix (F2) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) Reduced Vertic (F18) Redox Dark Surface (F6) Red Parent Material (TF2) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Thick Dark Surface (A12) Other (Explain in Remarks) Sandy Mucky Mineral (S1) Redox Depressions (F8) High Plains Depressions (F16) <sup>3</sup>Indicators of hydrophytic vegetation and 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) 5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H) wetland hydrology must be present. unless disturbed or problematic. Restrictive Layer (if present): Type: **Hydric Soil Present?** Depth (inches): Remarks: No hydric soil indicators observed. Cobbles and rock refusal limited excavation beyond 6". **HYDROLOGY** Wetland Hydrology Indicators: Secondary Indicators (minimum of two required) Primary Indicators (minimum of one required; check all that apply) 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) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) Water Marks (B1) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Drift Deposits (B3) (where not tilled) Crayfish Burrows (C8) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Thin Muck Surface (C7) Geomorphic Position (D2) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Frost-Heave Hummocks (D7) (LRR F) Field Observations: Yes No Depth (inches): Surface Water Present? Yes \_\_\_\_ No \_\_\_ Depth (inches): \_ Water Table Present? Wetland Hydrology Present? Yes \_\_\_\_ No \_\_\_ Saturation Present? Yes \_\_\_\_ No \_\_\_ Depth (inches): \_\_\_ (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: No evidence of wetland hydrology observed.

Project/Site: Kindsfater	City/County: Yellow	vstone	Sampling Date: 6/21/2022
Applicant/Owner: MDT			Sampling Point: DP02w
Investigator(s): S Weyant	Section, Township.		3 25E
Landform (hillslope, terrace, etc.): undulating/depression		·	
Subregion (LRR): LRR F Lat:			
Soil Map Unit Name: Ll: Larim gravelly loam, 15 to 35 percent s			
Are climatic / hydrologic conditions on the site typical for this time of y			
Are Vegetation, Soil, or Hydrology significant			
Are Vegetation, Soil, or Hydrology naturally p	roblematic? (If	f needed, explain any answe	ers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showin			
Hydrophytic Vegetation Present?  Hydric Soil Present?  Wetland Hydrology Present?  Yes No V  No N	-	tland? Yes	
Remarks: Wetland data point located in a small wetland at the barrier that limited excavation to 2".  VEGETATION - Use scientific names of plants	e SW portion of the	site. Hydric soil was not բ	present due to a rock/cobble
Absolute Domia	nt Indicator	Dominance Test wo	
Tree Stratum Plot size (30 Foot Radius) % Cover: Specie	es? Status	Number of Dominant that are OBL, FACW	Species
		Total Number of Dom Species Across All St	
Sapling/Shrub Stratum Plot size (15 Foot Radius)		Percent of Dominant S That Are OBL, FACW	
(10		Prevalence Index wo	
		Total % Cover of OBL species	
		· ·	0 X 1 0 80 X 2 160
		FAC species	0 X3 0
Herbaceous Stratum Plot size ( 5 Foot Radius)		FACU species	1 X 4 4
Cirsium arvense 1	FACU	UPL species	0 X 5 0
Phalaris arundinacea 80 🗸	FACW	Column Totals	81 (A) 164 (B)
		Prevalence Inde	x = B/A = 2.02
		Hydrophytic Vegetat  1 - Rapid Test	tion Indicators t for Hydrophytic Vegetation
		✓ 2 - Dominance	e Test is >50%
		✓ 3 - Prevalence	e Index is <= 3.0
			ical Adaptations (Provide ta in remarks or on separate
			on-Vascular Plants
			lydrophytic Vegetation (Explain)
Woody Vine Stratum Plot size ( 30 Foot Radius)		Indicators of hydric sil a	and wetland hydrology must be ed or problematic for #3, 4, 5.
Percent Bare Ground 20		Hydrophytic Vegetat Present?	
Remarks:			
Evidence of hydrophytic vegetation includes a positive rapid equal to 3.0.	test, a positive dom	inance test, and a preval	ence index less than or

Depth						Sampling Point: DP02w
	(Describe t	to the depth n	eeded to document th	ne indicator or conf	firm the absence o	f indicators.)
	Matrix		Redox Feat			
(inches) Cole	or (moist)	%	Color (moist) %	Type <sup>1</sup> Loc <sup>2</sup>	Texture	Remarks
0-01 10YR	3/1	100			Sandy Loam	
01-02 2.5Y	5/1	100			Sandy loam	Gravelly
02+					Cobbles	Rock refusal
					,	
Type: C=Concentra	tion, D=Depl	etion, RM=Re	duced Matrix, CS=Cove	ered or Coated Sand	— ————————————————————————————————————	tion: PL=Pore Lining, M=Matrix.
Hydric Soil Indicate	rs: (Applica	able to all LRF	Rs, unless otherwise i	noted.)		or Problematic Hydric Soils³:
Histosol (A1)			Sandy Gleyed	Matrix (S4)	1 cm Mu	ick (A9) ( <b>LRR I, J</b> )
Histic Epipedon	(A2)		Sandy Redox	(S5)	Coast P	rairie Redox (A16) ( <b>LRR F, G, H</b> )
Black Histic (A3)			Stripped Matrix	(S6)	Dark Su	rface (S7) (LRR G)
Hydrogen Sulfid	e (A4)		Loamy Mucky		High Pla	ins Depressions (F16)
Stratified Layers	. ,	;)	Loamy Gleyed			H outside of MLRA 72 & 73)
1 cm Muck (A9)	LRR F, G, H	H)	Depleted Matr			d Vertic (F18)
Depleted Below			Redox Dark S	urface (F6)	Red Par	ent Material (TF2)
Thick Dark Surfa		,	Depleted Dark			allow Dark Surface (TF12)
Sandy Mucky Mi	, ,		Redox Depres			xplain in Remarks)
2.5 cm Mucky Po		S2) ( <b>LRR G, H</b>		pressions (F16)		f hydrophytic vegetation and
5 cm Mucky Pea				& 73 of LRR H)		hydrology must be present,
_ ′	,	, ( ,	(	,		isturbed or problematic.
Restrictive Layer (if	present):					
Type: Rock						
Depth (inches): 2			-		Hydric Soil P	resent? Yes No _ ✓
hydrophy	no nyaric s	on indicators	were observed, wetl	and nydrology wa	e nreceni ali nom	inani niani shecies were
refusal lir		wetland bou ration beyond		edge (1987 COE	Wetland Delineat	ion Manual). Cobbles and rock
refusal lir				edge (1987 COE	Wetland Delineat	ion Manual). Cobbles and rock
	nited excav			edge (1987 COE	Wetland Delineat	ion Manual). Cobbles and rock
IYDROLOGY Wetland Hydrology Primary Indicators (n	nited excav	ration beyond	eck all that apply)	edge (1987 COE	Wetland Delineat	ion Manual). Cobbles and rock  r Indicators (minimum of two required
IYDROLOGY Wetland Hydrology Primary Indicators (n	nited excav	ration beyond	neck all that apply)  Salt Crust (B11)	edge (1987 COE	Wetland Delineat  Secondary Surface	on Manual). Cobbles and rock  / Indicators (minimum of two required ce Soil Cracks (B6)
IYDROLOGY Wetland Hydrology Primary Indicators (n	Indicators:	ration beyond	eck all that apply)	edge (1987 COE	Wetland Delineat  Secondary Surface	ion Manual). Cobbles and rock  r Indicators (minimum of two required
YDROLOGY Wetland Hydrology Primary Indicators (n	Indicators:	ration beyond	neck all that apply)  Salt Crust (B11)	edge (1987 COE	Wetland Delineat  Secondan Surfac Spars	on Manual). Cobbles and rock  / Indicators (minimum of two required ce Soil Cracks (B6)
YDROLOGY Wetland Hydrology Primary Indicators (n ✓ Surface Water (A ✓ High Water Tabl	Indicators: hinimum of or A1) e (A2)	ration beyond	neck all that apply)  Salt Crust (B11)  Aquatic Invertebr	edge (1987 COE  ates (B13) Odor (C1)	Wetland Delineat  Secondar Surfar Spars Draina	on Manual). Cobbles and rock  / Indicators (minimum of two required the Soil Cracks (B6) ely Vegetated Concave Surface (B8)
Wetland Hydrology Primary Indicators (n  ✓ Surface Water (/  ✓ High Water Tabl  ✓ Saturation (A3)  Water Marks (B1)	Indicators: hinimum of or A1) e (A2)	ration beyond	neck all that apply)  Salt Crust (B11)  Aquatic Invertebr Hydrogen Sulfide Dry-Season Wate	edge (1987 COE  ates (B13) Odor (C1)	Secondary Surface Spars Draina	ion Manual). Cobbles and rock  Indicators (minimum of two required the Soil Cracks (B6) ely Vegetated Concave Surface (B8) age Patterns (B10)
Wetland Hydrology Primary Indicators (n  ✓ Surface Water (n  ✓ High Water Tabl  ✓ Saturation (A3)  Water Marks (B1)  Sediment Depos	Indicators: hinimum of or A1) e (A2) ) its (B2)	ration beyond	eck all that apply)  Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Dry-Season Wate Oxidized Rhizosp	ates (B13) Odor (C1) er Table (C2) wheres on Living Roo	Secondary Surface Spars Draina Oxidiz ots (C3) (wh	on Manual). Cobbles and rock  Indicators (minimum of two required ce Soil Cracks (B6) ely Vegetated Concave Surface (B8) age Patterns (B10) ted Rhizospheres on Living Roots (C3 ere tilled)
Wetland Hydrology Primary Indicators (m  ✓ Surface Water (n  ✓ High Water Tabl  ✓ Saturation (A3)  — Water Marks (B1)  — Sediment Deposits (B	Indicators: hinimum of or A1) e (A2) ) its (B2) 3)	ration beyond	neck all that apply)  Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Dry-Season Wate Oxidized Rhizosp	ates (B13) Odor (C1) er Table (C2) wheres on Living Roced)	Secondary Surface Spars Draina Oxidiz ots (C3) (wh	ion Manual). Cobbles and rock  y Indicators (minimum of two required the Soil Cracks (B6) ely Vegetated Concave Surface (B8) age Patterns (B10) the Rhizospheres on Living Roots (C3 ere tilled) sh Burrows (C8)
Wetland Hydrology Primary Indicators (n  ✓ Surface Water (n  ✓ High Water Tabl  ✓ Saturation (A3)  Water Marks (B1  Sediment Deposits (B1  Algal Mat or Cru	Indicators: hinimum of or A1) e (A2) ) its (B2) 3) st (B4)	ration beyond	neck all that apply)  Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Dry-Season Wate Oxidized Rhizosp (where not tille Presence of Red	ates (B13) Odor (C1) er Table (C2) wheres on Living Roced) uced Iron (C4)	Secondan Surfar Spars Draina Oxidiz ots (C3) (wh	v Indicators (minimum of two required ce Soil Cracks (B6) ely Vegetated Concave Surface (B8) age Patterns (B10) ted Rhizospheres on Living Roots (C3 ere tilled) sh Burrows (C8) ation Visible on Aerial Imagery (C9)
Wetland Hydrology Primary Indicators (n  ✓ Surface Water (n  ✓ High Water Tabl  ✓ Saturation (A3)  Water Marks (B1)  Sediment Deposits (B1)  Algal Mat or Cru  Iron Deposits (B2)	Indicators: hinimum of or A1) e (A2) ) hits (B2) 3) st (B4) 5)	ration beyond	neck all that apply)  Salt Crust (B11)  Aquatic Invertebr Hydrogen Sulfide Dry-Season Wate Oxidized Rhizosp (where not tille Presence of Red Thin Muck Surface	ates (B13) Odor (C1) er Table (C2) cheres on Living Roced) uced Iron (C4) the (C7)	Secondan Surfac Spars Draina Oxidiz ots (C3) (wh Crayfi Satura	ion Manual). Cobbles and rock  / Indicators (minimum of two required the Soil Cracks (B6) ely Vegetated Concave Surface (B8) age Patterns (B10) the Rhizospheres on Living Roots (C3 ere tilled) sh Burrows (C8) ation Visible on Aerial Imagery (C9) iorphic Position (D2)
Wetland Hydrology Primary Indicators (n  ✓ Surface Water (n  ✓ High Water Tabl  ✓ Saturation (A3)  Water Marks (B1)  Sediment Deposits (B1)  Algal Mat or Cru  Iron Deposits (B2)  Inundation Visible	Indicators: hinimum of or A1) e (A2) ) its (B2) 3) st (B4) 5) e on Aerial II	ration beyond	neck all that apply)  Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Dry-Season Wate Oxidized Rhizosp (where not tille Presence of Red	ates (B13) Odor (C1) er Table (C2) cheres on Living Roced) uced Iron (C4) the (C7)	Secondary Surface Secondary Surface Spars Draina Oxidiz Ots (C3) (wh Crayfi Satura Geom	ion Manual). Cobbles and rock  Indicators (minimum of two required the Soil Cracks (B6) ely Vegetated Concave Surface (B8) age Patterns (B10) the Rhizospheres on Living Roots (C3 ere tilled) sh Burrows (C8) ation Visible on Aerial Imagery (C9) thorphic Position (D2) Neutral Test (D5)
Wetland Hydrology Primary Indicators (m ✓ Surface Water (A ✓ High Water Tabl ✓ Saturation (A3)  Water Marks (B1  Sediment Deposits (B1  Algal Mat or Cru  Iron Deposits (B1  Inundation Visibl  Water-Stained L	Indicators: hinimum of or A1) e (A2) ) its (B2) 3) st (B4) 5) e on Aerial II eaves (B9)	ration beyond	neck all that apply)  Salt Crust (B11)  Aquatic Invertebr Hydrogen Sulfide Dry-Season Wate Oxidized Rhizosp (where not tille Presence of Red Thin Muck Surface	ates (B13) Odor (C1) er Table (C2) cheres on Living Roced) uced Iron (C4) the (C7)	Secondary Surface Secondary Surface Spars Draina Oxidiz Ots (C3) (wh Crayfi Satura Geom	ion Manual). Cobbles and rock  / Indicators (minimum of two required the Soil Cracks (B6) ely Vegetated Concave Surface (B8) age Patterns (B10) the Rhizospheres on Living Roots (C3 ere tilled) sh Burrows (C8) ation Visible on Aerial Imagery (C9) iorphic Position (D2)
Wetland Hydrology Primary Indicators (m  ✓ Surface Water (A  ✓ High Water Tabl  ✓ Saturation (A3)      Water Marks (B1      Sediment Deposits (B1      Algal Mat or Cru      Iron Deposits (B1      Inundation Visibl      Water-Stained L  Field Observations:	Indicators: hinimum of or (A1) e (A2) ) its (B2) 3) st (B4) 5) e on Aerial II eaves (B9)	ne required; ch	Deck all that apply)  Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp (where not tille Presence of Red Thin Muck Surfac Other (Explain in	ates (B13) Odor (C1) er Table (C2) wheres on Living Roced) uced Iron (C4) ee (C7) Remarks)	Secondary Surface Secondary Surface Spars Draina Oxidiz Ots (C3) (wh Crayfi Satura Geom	ion Manual). Cobbles and rock  Indicators (minimum of two required the Soil Cracks (B6) ely Vegetated Concave Surface (B8) age Patterns (B10) the Rhizospheres on Living Roots (C3 ere tilled) sh Burrows (C8) ation Visible on Aerial Imagery (C9) thorphic Position (D2) Neutral Test (D5)
Wetland Hydrology Primary Indicators (m  ✓ Surface Water (A  ✓ High Water Tabl  ✓ Saturation (A3)  Water Marks (B1  Sediment Depos  Drift Deposits (B  Algal Mat or Cru  Iron Deposits (B:  Inundation Visible  Water-Stained L  Field Observations:  Surface Water Prese	Indicators: hinimum of or A1) e (A2) ) its (B2) 3) st (B4) 5) e on Aerial II eaves (B9) nt? Ye	magery (B7)	neck all that apply)  Salt Crust (B11)  Aquatic Invertebr  Hydrogen Sulfide  Dry-Season Wate  Oxidized Rhizosp  (where not tille  Presence of Red  Thin Muck Surfac  Other (Explain in	ates (B13) Odor (C1) er Table (C2) oheres on Living Roced) uced Iron (C4) er (C7) Remarks)	Secondary Surface Secondary Surface Spars Draina Oxidiz Ots (C3) (wh Crayfi Satura Geom	ion Manual). Cobbles and rock  Indicators (minimum of two required the Soil Cracks (B6) ely Vegetated Concave Surface (B8) age Patterns (B10) the Rhizospheres on Living Roots (C3 ere tilled) sh Burrows (C8) ation Visible on Aerial Imagery (C9) thorphic Position (D2) Neutral Test (D5)
Wetland Hydrology Primary Indicators (m  ✓ Surface Water (A  ✓ High Water Tabl  ✓ Saturation (A3)      Water Marks (B1      Sediment Deposits (B1      Algal Mat or Cru      Iron Deposits (B1      Inundation Visibl      Water-Stained L  Field Observations:	Indicators: ninimum of or A1) e (A2) ) its (B2) 3) st (B4) 5) e on Aerial II eaves (B9) nt? Ye ? Ye	ne required; ch	neck all that apply)  Salt Crust (B11)  Aquatic Invertebr  Hydrogen Sulfide  Dry-Season Wate  Oxidized Rhizosp  (where not tille  Presence of Red  Thin Muck Surfact  Other (Explain in	ates (B13) Odor (C1) er Table (C2) wheres on Living Roc ed) uced Iron (C4) ee (C7) Remarks)  0.5 6	Secondan Surfar Spars Draina Oxidiz Ots (C3) (wh Crayfi Satura FAC-I Frost-	ion Manual). Cobbles and rock  / Indicators (minimum of two required the Soil Cracks (B6) ely Vegetated Concave Surface (B8) age Patterns (B10) the Rhizospheres on Living Roots (C3 ere tilled) sh Burrows (C8) ation Visible on Aerial Imagery (C9) torphic Position (D2) Neutral Test (D5) Heave Hummocks (D7) (LRR F)
Wetland Hydrology Primary Indicators (m  ✓ Surface Water (A  ✓ High Water Tabl  ✓ Sediment Deposits (B  ☐ Sediment Deposits (B  ☐ Algal Mat or Cru  ☐ Iron Deposits (B  ☐ Unundation Visible  ☐ Water-Stained L  Field Observations:  Surface Water Present  Water Table Present?  (includes capillary frii	Indicators: Indicators: Ininimum of or Indicators: Ind	magery (B7)  es V No _ es V No _	neck all that apply)  Salt Crust (B11)  Aquatic Invertebr Hydrogen Sulfide Dry-Season Wate Oxidized Rhizosp (where not tille Presence of Red Thin Muck Surfac Other (Explain in	ates (B13) Odor (C1) er Table (C2) oheres on Living Roced) uced Iron (C4) ee (C7) Remarks)  0.5 6 0 w	Secondary Surface Spars Draina Oxidiz Ots (C3) (wh Crayfi Satura Geom FAC-I Frost-	Indicators (minimum of two required ce Soil Cracks (B6) ely Vegetated Concave Surface (B8) age Patterns (B10) red Rhizospheres on Living Roots (C3 ere tilled) sh Burrows (C8) ation Visible on Aerial Imagery (C9) rorphic Position (D2) Neutral Test (D5) Heave Hummocks (D7) (LRR F)
Wetland Hydrology Primary Indicators (m  ✓ Surface Water (A  ✓ High Water Tabl  ✓ Sediment Deposits (B  ☐ Sediment Deposits (B  ☐ Algal Mat or Cru  ☐ Iron Deposits (B  ☐ Unundation Visible  ☐ Water-Stained L  Field Observations:  Surface Water Present  Water Table Present?  (includes capillary frii	Indicators: Indicators: Ininimum of or Indicators: Ind	magery (B7)  es V No _ es V No _	neck all that apply)  Salt Crust (B11)  Aquatic Invertebr Hydrogen Sulfide Dry-Season Wate Oxidized Rhizosp (where not tille Presence of Red Thin Muck Surfac Other (Explain in	ates (B13) Odor (C1) er Table (C2) oheres on Living Roced) uced Iron (C4) ee (C7) Remarks)  0.5 6 0 w	Secondary Surface Spars Draina Oxidiz Ots (C3) (wh Crayfi Satura Geom FAC-I Frost-	ion Manual). Cobbles and rock  / Indicators (minimum of two required the Soil Cracks (B6) ely Vegetated Concave Surface (B8) age Patterns (B10) the Rhizospheres on Living Roots (C3 ere tilled) sh Burrows (C8) ation Visible on Aerial Imagery (C9) torphic Position (D2) Neutral Test (D5) Heave Hummocks (D7) (LRR F)
Wetland Hydrology Primary Indicators (n  ✓ Surface Water (n  ✓ High Water Table  ✓ Saturation (A3)  — Water Marks (B1  — Sediment Deposits (B1  — Algal Mat or Cru  — Iron Deposits (B1  — Inundation Visible  — Water-Stained L  Field Observations: Surface Water Present Saturation Present? (includes capillary frindescribe Recorded E	Indicators: hinimum of or A1) e (A2) ) its (B2) 3) st (B4) 5) e on Aerial II eaves (B9)  nt? Yo Yo nge) Data (stream	magery (B7)  es V No _ es V No _ gauge, monito	2".	ates (B13) Odor (C1) er Table (C2) sheres on Living Roced) uced Iron (C4) ee (C7) Remarks)  0.5 6 0 veced previous inspection	Secondan Surfar Surfar Spars Draina Oxidiz Oxidiz Oxidiz FAC-I Frost-	ion Manual). Cobbles and rock  / Indicators (minimum of two required the Soil Cracks (B6) ely Vegetated Concave Surface (B8) age Patterns (B10) the Rhizospheres on Living Roots (C3 ere tilled) sh Burrows (C8) ation Visible on Aerial Imagery (C9) torphic Position (D2) Neutral Test (D5) Heave Hummocks (D7) (LRR F)

Project/Site: Kindsfater	City/Cοι	unty: Yellowstone		Sampling Date: _	6/21/2022
		, Township, Range:		25E	
Landform (hillslope, terrace, etc.): Hillside/undulating					e (%): 50
Subregion (LRR): LRR F					
Soil Map Unit Name: LI: Larim gravelly loam, 15 to 35 perce	ent slopes		NWI classificat	Not mappe	d
Are climatic / hydrologic conditions on the site typical for this tim	on of year? Vec	No 🗆	//f no evolein in Rer	marke \	
Are Vegetation, Soil, or Hydrology signif					No 🗌
Are Vegetation, Soil, or Hydrology signif Are Vegetation, Soil, or Hydrology natur					NU _ <u>-</u> _
SUMMARY OF FINDINGS - Attach site map sho					oturae atc
		ming point locati	olis, transecte, i		
Hydrophytic Vegetation Present? Yes No		s the Sampled Area			
Hydric Soil Present?  Wetland Hydrology Present?  Yes No Wetland Hydrology Present?	<u>v</u>	within a Wetland?	Yes	No <u> </u>	
Remarks: Upland data point located on a hillslope at the	SE-central po	ortion of the site.			
VEGETATION - Use scientific names of plants					
Trace Ctreatures   Diet size (OO   Feet Dedition)	Domiant Indic Species? Stat	tus	minance Test works		
Elaeagnus angustifolia 2	<b>✓</b> FAC		mber of Dominant Sp t are OBL, FACW or		1 (A)
Populus deltoides 3	<b>✓</b> FAC		tal Number of Domina	ant	
			ecies Across All Strat	1	(B)
			rcent of Dominant Sp		% (A/B)
Sapling/Shrub Stratum Plot size (15 Foot Radius)			at Are OBL, FACW, o		
			evalence Index work Total % Cover of:		tiply by:
				0 X 1	0
		FAC	CW species (	0 X2	0
		FAG	C species ;	3 X3	9
Herbaceous Stratum Plot size ( 5 Foot Radius)			•	7 X4	68
Bromus inermis 5	UPL				125
Convolvulus arvensis 20	<b>✓</b> UPL		lumn Totals 45	(A)	202 (B)
Pascopyrum smithii 15	<b>✓</b> FACU	J	Prevalence Index =	= B/A =	4.49
		Hy	drophytic Vegetatio	n Indicators	
				or Hydrophytic Ve	getation
			2 - Dominance T	est is >50%	
			☐ 3 - Prevalence Ir	ndex is <= 3.0	
		1	4 - Morphologica	al Adaptations (Pr	rovide
				in remarks or on	
			5 - Wetland Non-	-Vascular Plants	
			Problematic Hyd	rophytic Vegetati	on (Explain)
Woody Vine Stratum Plot size ( 30 Foot Radius)			ators of hydric sil and ent, unless disturbed	d wetland hydrolog	gy must be
		Hyd	drophytic Vegetatio	n —	NO 🔽
Percent Bare Ground 20		Pre	esent?	163 🗀	NO E
Remarks:					
Data point is dominated by upland vegetation.					

SOIL Sampling Point: DP03u Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features % Loc<sup>2</sup> Color (moist) Color (moist) Texture (inches) Remarks 0 - 1210YR 3/2 100 Cobbly Sandy loam 12+ Cobble bottom Rock refusal <sup>2</sup>Location: PL=Pore Lining, M=Matrix. <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils<sup>3</sup>: Histosol (A1) 1 cm Muck (A9) (**LRR I, J**) Sandy Gleyed Matrix (S4) Histic Epipedon (A2) Sandy Redox (S5) Coast Prairie Redox (A16) (LRR F, G, H) Stripped Matrix (S6) Black Histic (A3) Dark Surface (S7) (LRR G) Loamy Mucky Mineral (F1) High Plains Depressions (F16) Hydrogen Sulfide (A4) (LRR H outside of MLRA 72 & 73) Stratified Layers (A5) (LRR F) Loamy Gleyed Matrix (F2) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) Reduced Vertic (F18) Redox Dark Surface (F6) Red Parent Material (TF2) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Thick Dark Surface (A12) Other (Explain in Remarks) Sandy Mucky Mineral (S1) Redox Depressions (F8) High Plains Depressions (F16) <sup>3</sup>Indicators of hydrophytic vegetation and 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) 5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H) wetland hydrology must be present. unless disturbed or problematic. Restrictive Layer (if present): Type: **Hydric Soil Present?** Depth (inches): Remarks: No hydric soil indicators observed. Rock refusal limited excavation beyond 12". **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Salt Crust (B11) Surface Soil Cracks (B6) High Water Table (A2) Aquatic Invertebrates (B13) Sparsely Vegetated Concave Surface (B8) Saturation (A3) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) Water Marks (B1) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Drift Deposits (B3) (where not tilled) Crayfish Burrows (C8) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Thin Muck Surface (C7) Geomorphic Position (D2) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Frost-Heave Hummocks (D7) (LRR F) Field Observations: Yes No Depth (inches): \_ Surface Water Present? Yes \_\_\_\_ No \_\_\_ Depth (inches): \_ Water Table Present? Wetland Hydrology Present? Yes \_\_\_\_ No \_\_\_ Saturation Present? Yes \_\_\_\_ No \_\_\_ Depth (inches): \_\_\_ (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: No evidence of wetland hydrology observed.

Project/Site: Kindsfater		(	City/County: Yello	owstone Sampling Date:6/21/2022
Applicant/Owner: MDT				State: Montana Sampling Point: DP03w
				p, Range: 6 2S 25E
•				ave, convex, none): flat Slope (%):
				92362 Long:108.694325Datum: NAD 83
Soil Man Unit Name: Ll: larim gravelly loam	. 15 to 35 per	cent slop	es	NWI classification: Not mapped
Are climatic / hydrologic conditions on the site	tunical for this	time of ves	ar2 Vac 🗸	Mo //f no evoluin in Pamarks )
	_			Are "Normal Circumstances" present? Yes No
				(If needed, explain any answers in Remarks.)
			sampling poi	int locations, transects, important features, etc
Hydrophytic Vegetation Present? Ye	s No		Is the Sam	npled Area
Hydric Soil Present? Ye Wetland Hydrology Present? Ye	s No			· /etland? Yes <u>V</u> No
Remarks: This point is located in an ephe	meral seep w	<i>i</i> ithin a se	dge community	<i>1</i> .
VEGETATION - Use scientific nan				
<u>Tree Stratum</u> Plot size (30 Foot Radius	Absolute % Cover:	Domiant Species?		Dominance Test worksheet
Elaeagnus angustifolia	3	<b>✓</b>	FACU	Number of Dominant Species that are OBL, FACW or FAC:
Populus deltoides	5	<b>✓</b>	FAC	Total Number of Dominant
				Species Across All Strata: 4 (B)
				Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0 % (A/B)
Sapling/Shrub Stratum Plot size (15	Foot Radius)			
				Prevalence Index worksheet  Total % Cover of: Multiply by:
				Total % Cover of: Multiply by:  OBL species 55 X 1 55
				FACW species 25 X 2 50
				FAC species 6 X 3 18
Herbaceous Stratum Plot size ( 5	Foot Radius)			FACU species 8 X 4 32
Alopecurus arundinaceus	25	<b>✓</b>	FACW	UPL species 5 X 5 25
Carex nebrascensis	55	<b>V</b>	OBL	Column Totals 99 (A) 180 (B)
Juncus sp.	5		UPL	Prevalence Index = B/A = 1.82
Rumex crispus	1		FAC	Hydrophytic Vegetation Indicators
Schedonorus arundinaceus	5		FACU	1 - Rapid Test for Hydrophytic Vegetation
				✓ 2 - Dominance Test is >50%
				✓ 3 - Prevalence Index is <= 3.0
				<ul> <li>4 - Morphological Adaptations (Provide supporting data in remarks or on separate sheet.</li> </ul>
				5 - Wetland Non-Vascular Plants
				Problematic Hydrophytic Vegetation (Explain)
Woody Vine Stratum Plot size ( 30	Foot Radius)			Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5.
				Hydrophytic Vegetation Yes V NO
Percent Bare Ground 10				Present?
Remarks:	:das a positiv	a damina	nee test and a r	executions a index loss than or equal to 3.0
Evidence of flydrophylic vegetation mod	des a positive	3 QUITIIIIai	ice test and a p	prevalence index less than or equal to 3.0.

SOIL Sampling Point: DP03w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features % Loc<sup>2</sup> Color (moist) Color (moist) Texture Remarks (inches) 0-04 2.5Y 2.5/1 100 Sandy Peat Many roots 2.5Y 100 04-10 3/1 Sandy Fibric Gravelly 10+ Gravel bottom Rock refusal <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils<sup>3</sup>: Histosol (A1) 1 cm Muck (A9) (**LRR I, J**) Sandy Gleyed Matrix (S4) Histic Epipedon (A2) Sandy Redox (S5) Coast Prairie Redox (A16) (LRR F, G, H) Stripped Matrix (S6) Black Histic (A3) Dark Surface (S7) (LRR G) Loamy Mucky Mineral (F1) High Plains Depressions (F16) Hydrogen Sulfide (A4) (LRR H outside of MLRA 72 & 73) Stratified Layers (A5) (LRR F) Loamy Gleyed Matrix (F2)  $\perp$  1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) Reduced Vertic (F18) Redox Dark Surface (F6) Red Parent Material (TF2) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Other (Explain in Remarks) Redox Depressions (F8) High Plains Depressions (F16) <sup>3</sup>Indicators of hydrophytic vegetation and 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) 5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H) wetland hydrology must be present. unless disturbed or problematic. Restrictive Layer (if present): Type: Rock Depth (inches): 10 **Hydric Soil Present?** Remarks: Greasy. Sandy fibric soil. Gravels and rock refusal limited excavation beyond 10". **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) ✓ Surface Water (A1) Salt Crust (B11) Surface Soil Cracks (B6) High Water Table (A2) Aquatic Invertebrates (B13) Sparsely Vegetated Concave Surface (B8) Saturation (A3) Hydrogen Sulfide Odor (C1) ✔ Drainage Patterns (B10) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) Water Marks (B1) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Drift Deposits (B3) (where not tilled) Crayfish Burrows (C8) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Thin Muck Surface (C7) Geomorphic Position (D2) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Frost-Heave Hummocks (D7) (LRR F) Field Observations: Yes No Depth (inches): Surface Water Present? Yes \_\_\_\_ No \_\_\_ Depth (inches): \_\_ Water Table Present? Wetland Hydrology Present? Yes Yes \_\_\_\_ No \_\_ Depth (inches): \_\_\_ Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Evidence of wetland hydrology includes surface water, drainage patterns, and a positive FAC-Neutral test.

Project/Site: Kindsfater	City/County: Yellowston	e Sampling Da	ate: 6/21/2022
		State: Montana Sampling Po	
Investigator(s): W Fouts			
Landform (hillslope, terrace, etc.): Lowland			
Subregion (LRR): LRR F Lat:			
Soil Map Unit Name: So: Shorey gravelly loam, 1 to 4 percent slo	nnes	.ong Not mi	anned
Are climatic / hydrologic conditions on the site typical for this time of ye	a ver 🔽 Na 🗆	NVVI classification:	<u>арроч</u>
Are Vegetation, Soil, or Hydrology significantly			
Are Vegetation, Soil, or Hydrology naturally pr	oblematic? (If need	ed, explain any answers in Remarks	i.)
SUMMARY OF FINDINGS – Attach site map showing	g sampling point loc	ations, transects, importan	t features, etc.
Hydrophytic Vegetation Present?  Hydric Soil Present?  Wetland Hydrology Present?  Remarks: Upland data point located near the center of the site	Is the Sampled A		<u> </u>
VEGETATION - Use scientific names of plants			
Tues Stratum Platains (00 Feet Bedius) Absolute Domian		Dominance Test worksheet	
Tree Stratum Plot size (30 Foot Radius) % Cover: Species	s? Status	Number of Dominant Species that are OBL, FACW or FAC:	0 (A)
		Total Number of Dominant Species Across All Strata:	2 (B)
Sapling/Shrub Stratum Plot size (15 Foot Radius)		Percent of Dominant Species That Are OBL, FACW, or FAC:	0.0 % (A/B)
Sapring our de de de la lace de lace de la lace de lace de la lace de lace de lace de la lace de lace d		Prevalence Index worksheet	
		Total % Cover of:	Multiply by:
		OBL species 0 X 1 FACW species 1 X 2	2
		FAC species 0 X 3	0
Diet size / F. Foot Padius)		FACU species 37 X 4	148
Herbaceous Stratum Plot size ( 5 Foot Radius)  Bromus tectorum 44 ✓	UPL	UPL species 47 X 5	235
Euphorbia esula 1	UPL	Column Totals 85 (A)	385 (B)
Juncus balticus 1	FACW	Prevalence Index = B/A =	4.53
Poa pratensis 35	FACU		
Sporobolus cryptandrus 2	FACU	Hydrophytic Vegetation Indicators  1 - Rapid Test for Hydrophyt	
Verbascum thapsus 2	UPL	2 - Dominance Test is >50%	-
		3 - Prevalence Index is <= 3	
		<ul> <li>4 - Morphological Adaptation supporting data in remarks of sheet.</li> </ul>	
		☐ 5 - Wetland Non-Vascular Pl	lants
		Problematic Hydrophytic Veg	getation (Explain)
Woody Vine Stratum Plot size ( 30 Foot Radius)		ndicators of hydric sil and wetland hy present, unless disturbed or problema	drology must be
Percent Bare Ground 15		Hydrophytic Vegetation Yes	
Remarks:			
Data point is dominated by upland vegetation.			

SOIL Sampling Point: DP04u Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features % Loc2 Color (moist) Texture Color (moist) (inches) Remarks 0-03 3/4 100 Silt Loam **10YR** 100 03-10 10YR 4/3 Sand Cobbly 10+ Cobble bottom Rock refusal <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils<sup>3</sup>: Histosol (A1) 1 cm Muck (A9) (**LRR I, J**) Sandy Gleyed Matrix (S4) Histic Epipedon (A2) Sandy Redox (S5) Coast Prairie Redox (A16) (LRR F, G, H) Stripped Matrix (S6) Black Histic (A3) Dark Surface (S7) (LRR G) Loamy Mucky Mineral (F1) High Plains Depressions (F16) Hydrogen Sulfide (A4) (LRR H outside of MLRA 72 & 73) Stratified Layers (A5) (LRR F) Loamy Gleyed Matrix (F2) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) Reduced Vertic (F18) Redox Dark Surface (F6) Red Parent Material (TF2) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Thick Dark Surface (A12) Other (Explain in Remarks) Sandy Mucky Mineral (S1) Redox Depressions (F8) High Plains Depressions (F16) <sup>3</sup>Indicators of hydrophytic vegetation and 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) 5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H) wetland hydrology must be present. unless disturbed or problematic. Restrictive Layer (if present): Type: **Hydric Soil Present?** Depth (inches): Remarks: No hydric soil indicators observed. Cobbles and rock refusal limited excavation beyond 10". **HYDROLOGY** Wetland Hydrology Indicators: Secondary Indicators (minimum of two required) Primary Indicators (minimum of one required; check all that apply) 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) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) Water Marks (B1) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Drift Deposits (B3) (where not tilled) Crayfish Burrows (C8) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Thin Muck Surface (C7) Geomorphic Position (D2) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Frost-Heave Hummocks (D7) (LRR F) Field Observations: Yes No Depth (inches): \_ Surface Water Present? Yes \_\_\_\_ No \_\_\_ Depth (inches): \_ Water Table Present? Wetland Hydrology Present? Yes \_\_\_\_ No \_\_\_ Saturation Present? Yes \_\_\_\_ No \_\_\_ Depth (inches): \_\_\_ (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: No evidence of wetland hydrology observed.

Project/Site: Kindsfater	City/County: Yellowsto	one Sampling Date: 6/21/2022
Applicant/Owner: MDT		State: Montana Sampling Point: DP04w
Investigator(s): W Fouts		
Landform (hillslope, terrace, etc.): Lowland	Local relief (concave,	convex, none): convex Slope (%):1
Subregion (LRR): LRR F	Lat: 45.69397	5 Long:108.695944 Datum: NAD 83
Soil Map Unit Name: So: Shorey gravelly loam, 1 to 4 pe	rcent slopes	NWI classification: Not mapped
Are climatic / hydrologic conditions on the site typical for this	time of year? Yes 🔽 No _	(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology sig	nificantly disturbed? Are "	'Normal Circumstances" present? Yes 🔽 No 🔲
Are Vegetation, Soil, or Hydrology na	turally problematic? (If ne	eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map s	howing sampling point l	ocations, transects, important features, etc.
Hydric Soil Present? Yes ✓ No Wetland Hydrology Present? Yes ✓ No	Within a vvetiar	I Area nd? Yes <u>V</u> No
Remarks: Wetland data point located at the N boundar  VEGETATION - Use scientific names of plant		
Absolute	Domiant Indicator	Dominance Test worksheet
Tree Stratum Plot size (30 Foot Radius) % Cover:	Species? Status	Number of Dominant Species that are OBL, FACW or FAC: 2 (A)
		Total Number of Dominant Species Across All Strata:  2 (B)
Sapling/Shrub Stratum Plot size (15 Foot Radius)		Percent of Dominant Species That Are OBL, FACW, or FAC:  100.0 % (A/B)
		Prevalence Index worksheet
		Total % Cover of: Multiply by:  OBL species 0 X 1 0
		FACW species 75 X 2 150
		FAC species 0 X 3 0
Herbaceous Stratum Plot size ( 5 Foot Radius)		FACU species 15 X 4 60 UPL species 0 X 5 0
Alopecurus arundinaceus 45	<b>✓</b> FACW	
Juncus balticus 30	FACW FACUL	Column Totals 90 (A) 210 (B)
Poa pratensis 15	☐ FACU	Prevalence Index = B/A = 2.33
		Hydrophytic Vegetation Indicators  ✓ 1 - Rapid Test for Hydrophytic Vegetation
		✓ 2 - Dominance Test is >50%
		✓ 3 - Prevalence Index is <= 3.0
		4 - Morphological Adaptations (Provide supporting data in remarks or on separate sheet.
		5 - Wetland Non-Vascular Plants
		Problematic Hydrophytic Vegetation (Explain)
Woody Vine Stratum Plot size ( 30 Foot Radius)		Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5.
Percent Bare Ground 10		Hydrophytic Vegetation Yes ✓ NO
Remarks:		
Evidence of hydrophytic vegetation includes a positive equal to 3.0.	e rapid test, a positive domina	ance test, and a prevalence index less than or

SOIL									Sa	mpling Point:	DP04w
Profile Desc	ription: (De	scribe to	the depth ne	eded to docu	ment the indica	ator or cor	nfirm the ab	sence of	indicator	's.)	
Depth		latrix	-		x Features					•	
(inches)	Color (m		% C	olor (moist)	%Тур	pe <sup>1</sup> Loc	c <sup>2</sup> Text	ture		Remarks	
0-01	10YR 2	2/2	100				Silty Cla	y Loam			
01-08	10YR 5	5/1	100				Sandy Cl	ay Loam	Cobbly	/	
8+							Cobble	bottom	Rock r	efusal	
¹Type: C=Co	ncentration,	D=Depleti	on, RM=Redi	uced Matrix, C	S=Covered or C	oated San				ore Lining, N	
Histosol Histic Ep Black His Hydrogel Stratified 1 cm Mu Depleted Thick Da Sandy M 2.5 cm Mu 5 cm Mu Restrictive L Type: Depth (inc	(A1) ipedon (A2) stic (A3) n Sulfide (A4 Layers (A5) ck (A9) (LRF Below Dark rk Surface (Aucky Mineral lucky Peat or cky Peat or cky Peat or ayer (if pres	) (LRR F) (R F, G, H) Surface (A (A12) (S1) (Peat (S2) (Peat (S3) (	411) ) (LRR G, H) LRR F)	Sandy Strippe Loamy Loamy Deplete Redox Deplete High Pl	rwise noted.) Gleyed Matrix (S Redox (S5) d Matrix (S6) Mucky Mineral ( Gleyed Matrix (F3) Dark Surface (Fad Dark Surface Depressions (F8 ains Depression RA 72 & 73 of I	(F1) F2) 6) (F7) 3) ns (F16) LRR H)	Hydri	1 cm Muc Coast Pra Dark Surfa High Plain (LRR I Reduced V Red Parei Very Shal Other (Explicators of I wetland hy unless dis	k (A9) (LF irie Redo: ace (S7) as Depres I outside Vertic (F1 nt Materia low Dark plain in Re nydrophyt vdrology r turbed or	x (A16) (LRR (LRR G) ssions (F16) of MLRA 72 8) al (TF2) Surface (TF1	2 <b>F</b> , <b>G</b> , <b>H</b> ) 2 <b>&amp; 73</b> ) 2) and
HYDROLO(	GY										
Wetland Hyd		cators:									
			required: che	ck all that appl	w		94	econdanı l	ndicators	(minimum o	f two required)
Surface N High Wat Saturatio Water Ma Sedimen Drift Dep Algal Mat Iron Depi Inundatio Water-St	Water (A1) ter Table (A2 n (A3) arks (B1) t Deposits (B osits (B3) t or Crust (B4 osits (B5) on Visible on ained Leave	2) 32) 4) Aerial Ima		Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized I (where Presence Thin Muck	•	(C2) n Living Ro		Surface Sparsel Drainag Oxidize (wher Crayfisl Saturate Geomo	Soil Crady Vegetar ge Pattern d Rhizosp re tilled) n Burrows ion Visible rphic Pos eutral Tes	cks (B6) ted Concave as (B10) pheres on Liv s (C8) e on Aerial In ition (D2)	Surface (B8) ring Roots (C3
Field Observ											
Surface Wate Water Table I		Yes Yes		Depth (in Depth (in							
Saturation Pro	illary fringe)	Yes		Depth (in			Wetland Hyd		resent?	Yes	No
Describe Rec	orded Data (	sueam ga	uge, monitori	ng well, aerial	photos, previous	s mspectio	ווא), וד avallal	ule.			
	idence of w C-Neutral to		drology incl	udes saturatio	on within 8 inc	hes of the	e soil surfac	ce, geom	orphic po	osition, and	a positive

Project/Site: Kindsfater	1	City/Cor	<sub>unty:</sub> Yellowstone		Sampling Date	6/21/2022
Applicant/Owner: MDT			•			
			, Township, Range: _		3 25	
Landform (hillslope, terrace, etc.): Road slope						
Subregion (LRR): LRR F						
Subregion (LRR): LINCT Soil Map Unit Name: Kh: Keiser and Hesper silty clay	Lat:	1 nerc	ant clones	g:	Not man	nod
						peu
Are climatic / hydrologic conditions on the site typical for t						
Are Vegetation, Soil, or Hydrology						<u>✓</u> No
Are Vegetation, Soil, or Hydrology	_ naturally pro	oblemati	c? (If needed	, explain any answe	ers in Remarks.)	
SUMMARY OF FINDINGS – Attach site ma	p showing	, samp	oling point locat	ions, transects	s, important f	features, etc.
Hydrophytic Vegetation Present?  Hydric Soil Present?  Wetland Hydrology Present?  Remarks: Upland data point located near the NW of	No 🔽	\	s the Sampled Area		No	_
VEGETATION - Use scientific names of pl		t Indi	icator			
Tree Stratum Plot size (30 Foot Radius) Absolu			tus	ominance Test wo		
Populus deltoides	10 🗸	FA	C tha	umber of Dominant at are OBL, FACW	or FAC:	1 (A)
				otal Number of Dom Decies Across All St		3 (B)
Sapling/Shrub Stratum Plot size (15 Foot Radiu			Pe Th	ercent of Dominant nat Are OBL, FACW	Species 3:	3.3 % (A/B)
(.5	-,			revalence Index we Total % Cover of		Multiply by:
			·	BL species		0
				ACW species	0 X2	0
				AC species	10 X3	30
Herbaceous Stratum Plot size ( 5 Foot Radiu	ıs)			ACU species PL species	55 X 4 40 X 5	220
Bromus inermis	15	UPL				200
Convolvulus arvensis 2	25 🗸	UPL	Co	olumn Totals	105 (A)	450 (B)
Elymus canadensis	5	FACU		Prevalence Inde	x = B/A =	4.29
Elymus repens 5	50	FACL	J Hy	ydrophytic Vegeta	tion Indicators	
					t for Hydrophytic	Vegetation
				2 - Dominanc	e Test is >50%	
				3 - Prevalenc	e Index is <= 3.0	
				4 - Morpholoc	gical Adaptations	(Provide
					ita in remarks or c	
				5 - Wetland N	lon-Vascular Plan	nts
				☐ Problematic F	Hydrophytic Veget	tation (Explain)
Woody Vine Stratum Plot size ( 30 Foot Radiu	s)			cators of hydric sil a	and wetland hydro	ology must be
Paracut Para Cround 5			Ну	ydrophytic Vegeta	•	NO <b>✓</b>
Percent Bare Ground 5 Remarks:						
Data point is dominated by upland vegetation.						

SOIL Sampling Point: DP05u Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features % Loc<sup>2</sup> Color (moist) Color (moist) Texture (inches) Remarks 0-16 3/2 100 10YR Loamy Sand Cobbly <sup>2</sup>Location: PL=Pore Lining, M=Matrix. <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils<sup>3</sup>: Histosol (A1) 1 cm Muck (A9) (**LRR I, J**) Sandy Gleyed Matrix (S4) Histic Epipedon (A2) Sandy Redox (S5) Coast Prairie Redox (A16) (LRR F, G, H) Black Histic (A3) Stripped Matrix (S6) Dark Surface (S7) (LRR G) Loamy Mucky Mineral (F1) High Plains Depressions (F16) Hydrogen Sulfide (A4) (LRR H outside of MLRA 72 & 73) Stratified Layers (A5) (LRR F) Loamy Gleyed Matrix (F2) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) Reduced Vertic (F18) Redox Dark Surface (F6) Red Parent Material (TF2) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Thick Dark Surface (A12) Other (Explain in Remarks) Sandy Mucky Mineral (S1) Redox Depressions (F8) High Plains Depressions (F16) <sup>3</sup>Indicators of hydrophytic vegetation and 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) 5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H) wetland hydrology must be present. unless disturbed or problematic. Restrictive Layer (if present): Type: **Hydric Soil Present?** Depth (inches): Remarks: No hydric soil indicators observed. **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Salt Crust (B11) Surface Soil Cracks (B6) High Water Table (A2) Aquatic Invertebrates (B13) Sparsely Vegetated Concave Surface (B8) Saturation (A3) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) Water Marks (B1) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Drift Deposits (B3) (where not tilled) Crayfish Burrows (C8) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Thin Muck Surface (C7) Geomorphic Position (D2) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Frost-Heave Hummocks (D7) (LRR F) Field Observations: Yes No Depth (inches): Surface Water Present? Yes \_\_\_\_ No \_\_\_ Depth (inches): Water Table Present? Wetland Hydrology Present? Yes \_\_\_\_ No \_\_\_ Saturation Present? Yes \_\_\_\_ No \_\_\_ Depth (inches): \_\_\_ (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: No evidence of wetland hydrology observed.

Project/Site: Kindsfater	City/County: Yellowstor	ne	Sampling Date: _	6/21/2022
		State: Montana		
Investigator(s): W Fouts			25E	
Landform (hillslope, terrace, etc.): depression	Local relief (concave, co	onvex, none): flat	Slo <sub>l</sub>	oe (%):1
Subregion (LRR): LRR F Lat:	45.69648	Long:108	8.698781 <sub>Datui</sub>	m: NAD 83
Soil Map Unit Name: Bm: Bew silty clay loam, 0 to 1 percent slop	es	NWI classifica	ation: Not mappe	ed
Are climatic / hydrologic conditions on the site typical for this time of ye				
Are Vegetation, Soil, or Hydrology significantly	disturbed? Are "N	Iormal Circumstances" pr	resent? Yes 🔽	No
Are Vegetation $ \begin{tabular}{c} \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$	blematic? (If nee	ded, explain any answers	s in Remarks.)	
SUMMARY OF FINDINGS – Attach site map showing	sampling point lo	cations, transects,	important fe	atures, etc.
Hydrophytic Vegetation Present?  Hydric Soil Present?  Wetland Hydrology Present?  Remarks: Wetland data point located at the NW portion of the service of t		Area d? Yes <u>V</u>	No _	-
VEGETATION - Use scientific names of plants  Absolute Domiant	: Indicator		, .	
Tree Stratum Plot size (30 Foot Radius) % Cover: Species		Dominance Test work  Number of Dominant S		
Populus angustifolia 10	FACW	that are OBL, FACW or		3 (A)
Populus deltoides 5	FAC	Total Number of Domin Species Across All Stra		3 (B)
Sapling/Shrub Stratum Plot size (15 Foot Radius)		Percent of Dominant S That Are OBL, FACW,		0 % (A/B)
, ,		Prevalence Index wor		lation to the second
		Total % Cover of: OBL species	0 X 1	ltiply by: 0
		FACW species 10		218
		'	5 X 3	15
Herbaceous Stratum   Plot size ( 5 Foot Radius)		'	0 X 4 0 X 5	0
Phalaris arundinacea 99	FACW	Column Totals 11		233 (B)
		Prevalence Index	= B/A =	2.04
		Hydrophytic Vegetation  1 - Rapid Test f  2 - Dominance	for Hydrophytic Ve	egetation
		✓ 3 - Prevalence	Index is <= 3.0	
			cal Adaptations (F a in remarks or on	
		☐ 5 - Wetland Nor	n-Vascular Plants	
		☐ Problematic Hy	drophytic Vegetat	ion (Explain)
Woody Vine Stratum Plot size ( 30 Foot Radius)		Indicators of hydric sil an present, unless disturbed		
Percent Bare Ground 0		Hydrophytic Vegetation Present?	on Yes 🗸	NO 🗆
Remarks: Evidence of hydrophytic vegetation includes a positive domina	ince test and a prevale	ence index less than o	r equal to 3.0.	

OIL									
Profile Des	cription: (Descri	be to the de	oth needed	to docum	nent the i	ndicator	or confirm	n the absence	of indicators.)
Depth	Matrix				x Features				
(inches)	Color (moist)		Color (r	moist)	%	Type <sup>1</sup>	_Loc <sup>2</sup>	Texture	Remarks
0-16	10YR 4/1	93	7.5YR	4/6	7	С	PL, M	Silty Clay	
						-			
						-			
						-			
						1	. ———		
		<del></del>	-						
	oncentration, D=[						ed Sand G		cation: PL=Pore Lining, M=Matrix.
	Indicators: (App	licable to all	I LKKS, uni	,		-			for Problematic Hydric Soils <sup>3</sup> :
Histoso	I (A1) pipedon (A2)				Bleyed Ma Redox (S5				Muck (A9) ( <b>LRR I, J</b> ) Prairie Redox (A16) ( <b>LRR F, G, H</b> )
	istic (A3)			-	Matrix (S				Surface (S7) (LRR G)
	en Sulfide (A4)			-	Mucky Mir				lains Depressions (F16)
Stratifie	d Layers (A5) ( <b>LR</b>	R F)		Loamy G	Sleyed Ma	atrix (F2)		(LR	R H outside of MLRA 72 & 73)
	uck (A9) ( <b>LRR F</b> ,		<u></u>	-	d Matrix (F			_	ed Vertic (F18)
	d Below Dark Sur ark Surface (A12)	` '	<u> </u>	_	ark Surfa		<b>.</b>		arent Material (TF2)
_	ark Surface (A12) Mucky Mineral (S1		+		d Dark Su Depression		)		hallow Dark Surface (TF12) (Explain in Remarks)
_	Mucky Peat or Pe	•	G, H)	=	ins Depre		<del>-</del> 16)		of hydrophytic vegetation and
	ucky Peat or Peat				-	3 of LR	-		d hydrology must be present,
					011201				
				,	0112 41		,	unless	disturbed or problematic.
Restrictive	Layer (if present	<b>)</b> :						unless	disturbed or problematic.
Туре:				•					
Туре:	Layer (if present			,			,		disturbed or problematic.  Present? Yes No
Type: Depth (in			ncentration					Hydric Soil	Present? Yes V No
Type: Depth (in	ches):		ncentration					Hydric Soil	Present? Yes V No
Type: Depth (in	ches):		ncentration					Hydric Soil	Present? Yes V No
Type: Depth (in Remarks: p	ches):		ncentration					Hydric Soil	Present? Yes V No
Type: Depth (in Remarks: p	ches):	morphic cor	ncentration					Hydric Soil	Present? Yes V No
Type: Depth (in Remarks: p YDROLO Wetland Hy	ches):rominent redoxi	morphic cor		is commo	on along			Hydric Soil vithin the depl	Present? Yes V No
Type: Depth (in Remarks: P  YDROLO  Vetland Hy  Primary Indi	ches):rominent redoxi	morphic cor	ed; check all	is commo	on along			Hydric Soil vithin the depl	Present? Yes V No O
Type: Depth (in Remarks: P  YDROLO Vetland Hy Primary India	rches):  Prominent redoxi  PGY  drology Indicato cators (minimum o	morphic cor	ed; check all	s commo	on along  (b) (B11)	pore lini		Hydric Soil vithin the depl Seconda	Present? Yes V No O No
Type:	rominent redoxi  OGY  Ordrology Indicato cators (minimum of Water (A1) ater Table (A2)	morphic cor	ed; check all	s commo	on along  (b)  (B11)  (ertebrate:	pore lini s (B13)		Hydric Soil vithin the depl  Seconda  Surf Surf	Present? Yes V No O No
Type: Depth (in Remarks: P  YDROLO  Vetland Hy Primary Indi Surface High Wa Saturati	rominent redoxi  OGY  Ordrology Indicato cators (minimum of Water (A1) ater Table (A2)	morphic cor	ed; check all	that apply Salt Crust (	on along  (b)  (B11)  (ertebrates	pore lini s (B13) dor (C1)	ngs and v	Hydric Soil vithin the depl  Seconda  Surf Spa Drai	eted matrix.  In Indicators (minimum of two required face Soil Cracks (B6) Insely Vegetated Concave Surface (B8) Inage Patterns (B10)
Type: Depth (in Remarks: P  YDROLO  Vetland Hy Primary Indi Surface High Wa Saturati Water M Sedime	rominent redoxi	morphic cor	ed; check all	that apply Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor	on along  () (B11) vertebrate: Sulfide Oco n Water T	pore lini s (B13) dor (C1) able (C2	ngs and v	Hydric Soil vithin the depl  Seconda Surf Spa Drai Oxic (C3) (w	eted matrix.  any Indicators (minimum of two required face Soil Cracks (B6)) rsely Vegetated Concave Surface (B8) nage Patterns (B10) dized Rhizospheres on Living Roots (Cornere tilled)
Type:	drology Indicato cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3)	morphic cor	ed; check all	that apply Salt Crust ( Aquatic Inv Hydrogen S Dry-Season Dxidized R (where n	on along  (B11) vertebrate: Sulfide Oc n Water T chizosphe	pore lini s (B13) dor (C1) able (C2 res on Liv	ngs and v	Seconda Seconda Surf Spa Drai Oxio (C3) WC3	eted matrix.  In Indicators (minimum of two required face Soil Cracks (B6) In Insely Vegetated Concave Surface (B8) In Inage Patterns (B10) In Indicators (B10) In Ind
Type:	rominent redoxi	morphic cor	ed; check all	that apply Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Dxidized R (where n	on along (B11) vertebrate: Sulfide Oc n Water T hizospher iot tilled)	pore lini s (B13) dor (C1) able (C2 res on Liv	ngs and v	Seconda Seconda Surf Spa Drai Oxic (C3) (C3) Satu	eted matrix.  any Indicators (minimum of two required face Soil Cracks (B6) rsely Vegetated Concave Surface (B8) nage Patterns (B10) dized Rhizospheres on Living Roots (Cothere tilled) fish Burrows (C8) uration Visible on Aerial Imagery (C9)
Type:	rominent redoxi  redrology Indicate cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5)	morphic cor	ed; check all	that apply Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Dxidized R (where n Presence of	on along  (B11)  (B11)  (ertebrate: Sulfide Od  n Water T  chizospher  not tilled)  of Reduce Surface (	s (B13) dor (C1) able (C2 res on Liv d Iron (C	ngs and v	Seconda Seconda Surf Spa Drai Oxic (C3) (w Satu	eted matrix.  any Indicators (minimum of two required face Soil Cracks (B6) resely Vegetated Concave Surface (B8) nage Patterns (B10) dized Rhizospheres on Living Roots (Centere tilled) fish Burrows (C8) uration Visible on Aerial Imagery (C9) morphic Position (D2)
Type: Depth (in Remarks: P  YDROLO  Vetland Hy Primary India Surface High Wa Saturati Water M Sedime Drift De Algal Ma Iron Dep	rominent redoxi	morphic cor  rs:  of one require	ed; check all	that apply Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Dxidized R (where n	on along  (B11)  (B11)  (ertebrate: Sulfide Od  n Water T  chizospher  not tilled)  of Reduce Surface (	s (B13) dor (C1) able (C2 res on Liv d Iron (C	ngs and v	Hydric Soil  vithin the depl  Seconda Seconda Spa Spa Drai Oxio (C3) (w Cray Satu Geo	eted matrix.  any Indicators (minimum of two required face Soil Cracks (B6) resely Vegetated Concave Surface (B8) nage Patterns (B10) dized Rhizospheres on Living Roots (Centere tilled) offish Burrows (C8) uration Visible on Aerial Imagery (C9) morphic Position (D2) c-Neutral Test (D5)
Type:	rominent redoxi	morphic cor  rs:  of one require	ed; check all	that apply Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Dxidized R (where n Presence of	on along  (B11)  (B11)  (ertebrate: Sulfide Od  n Water T  chizospher  not tilled)  of Reduce Surface (	s (B13) dor (C1) able (C2 res on Liv d Iron (C	ngs and v	Hydric Soil  vithin the depl  Seconda Seconda Spa Spa Drai Oxio (C3) (w Cray Satu Geo	eted matrix.  any Indicators (minimum of two required face Soil Cracks (B6) resely Vegetated Concave Surface (B8) nage Patterns (B10) dized Rhizospheres on Living Roots (Centere tilled) fish Burrows (C8) uration Visible on Aerial Imagery (C9) morphic Position (D2)
Type:	drology Indicator cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) at the Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aeristained Leaves (Bayrations:	rs: of one require al Imagery (E	od; check all	that apply Salt Crust ( Aquatic Inv Hydrogen S Dry-Season Dxidized R (where n Presence of	on along (B11) vertebrate: Sulfide Och Noter T chizospher of tilled) of Reduce Surface (color in Reduce)	pore lini s (B13) dor (C1) able (C2 res on Liv d Iron (C C7) marks)	ngs and v	Hydric Soil  vithin the depl  Seconda Seconda Spa Spa Drai Oxio (C3) (w Cray Satu Geo	eted matrix.  any Indicators (minimum of two required ace Soil Cracks (B6) resely Vegetated Concave Surface (B8) nage Patterns (B10) dized Rhizospheres on Living Roots (Centere tilled) offish Burrows (C8) uration Visible on Aerial Imagery (C9) morphic Position (D2) c-Neutral Test (D5)
Type:	rominent redoxi  romine	morphic cor  rs:  of one require  al Imagery (E	ed; check all  S  A  B  F  S  T  T  T  T  T  T  T  T  T  T  T  T	that apply Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Dxidized R (where n Presence of Thin Muck Other (Exp	(B11) vertebrate: Sulfide Oc n Water T hizospher not tilled) of Reduce Surface (i	pore lini s (B13) dor (C1) able (C2 res on Liv d Iron (C C7) marks)	ngs and v	Hydric Soil  vithin the depl  Seconda Seconda Spa Spa Drai Oxio (C3) (w Cray Satu Geo	eted matrix.  any Indicators (minimum of two required ace Soil Cracks (B6) resely Vegetated Concave Surface (B8) nage Patterns (B10) dized Rhizospheres on Living Roots (Centere tilled) offish Burrows (C8) uration Visible on Aerial Imagery (C9) morphic Position (D2) c-Neutral Test (D5)
Type:	rominent redoxi  romine	al Imagery (E	ed; check all  S  A  B  F  S  T  T  No  No  No  No  No  No  No  No	that apply Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Dxidized R (where n Presence c Thin Muck Dther (Exp	on along  (B11)  vertebrate: Sulfide Oct n Water T thizospher tot tilled) of Reduce Surface ( lain in Re	s (B13) dor (C1) able (C2) res on Liv d Iron (C C7) marks)	ngs and v	Seconda Seconda Surf Spa Drai Oxic (C3) (w Cray Satu FAC	eted matrix.  any Indicators (minimum of two required face Soil Cracks (B6) resely Vegetated Concave Surface (B8) nage Patterns (B10) dized Rhizospheres on Living Roots (Cohere tilled) refish Burrows (C8) uration Visible on Aerial Imagery (C9) morphic Position (D2) c-Neutral Test (D5) st-Heave Hummocks (D7) (LRR F)
Type:	rominent redoxi  romine	al Imagery (E	ed; check all  S  A  B  F  T  T  No  No  No  No  No  No  No  No	that apply Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Dxidized R (where n Presence of Thin Muck Other (Exp	on along  (B11) vertebrate: Sulfide Oc n Water T chizospher of tilled) of Reduce Surface (clain in Re	s (B13) dor (C1) able (C2) res on Liv d Iron (C C7) marks)	ngs and v	Seconda Seconda Surf Spa Drai Oxic (C3) (w Cray FAC Fros	eted matrix.  any Indicators (minimum of two required ace Soil Cracks (B6) resely Vegetated Concave Surface (B8) nage Patterns (B10) dized Rhizospheres on Living Roots (Centere tilled) offish Burrows (C8) uration Visible on Aerial Imagery (C9) morphic Position (D2) c-Neutral Test (D5)
Type:	rominent redoxi  water (A1)  rominent (A2)  rominent (A3)  rominent (A3)  rominent (A3)  rominent (A3)  rominent (B4)  rominent (B4)  rominent (B4)  rominent (B5)  rominent (B5)  rominent (B5)  rominent (B5)  rominent (B6)  rominent	al Imagery (E	ed; check all  S  A  B  F  T  T  No  No  No  No  No  No  No  No	that apply Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Dxidized R (where n Presence of Thin Muck Other (Exp	on along  (B11) vertebrate: Sulfide Oc n Water T chizospher of tilled) of Reduce Surface (clain in Re	s (B13) dor (C1) able (C2) res on Liv d Iron (C C7) marks)	ngs and v	Seconda Seconda Surf Spa Drai Oxic (C3) (w Cray FAC Fros	eted matrix.  any Indicators (minimum of two required face Soil Cracks (B6) resely Vegetated Concave Surface (B8) nage Patterns (B10) dized Rhizospheres on Living Roots (Cohere tilled) refish Burrows (C8) uration Visible on Aerial Imagery (C9) morphic Position (D2) c-Neutral Test (D5) st-Heave Hummocks (D7) (LRR F)
Type:	rominent redoxi  romine	al Imagery (E	ed; check all  S  A  B  F  T  T  No  No  No  No  No  No  No  No	that apply Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Dxidized R (where n Presence of Thin Muck Other (Exp	on along  (B11) vertebrate: Sulfide Oc n Water T chizospher of tilled) of Reduce Surface (clain in Re	s (B13) dor (C1) able (C2) res on Liv d Iron (C C7) marks)	ngs and v	Seconda Seconda Surf Spa Drai Oxic (C3) (w Cray FAC Fros	eted matrix.  any Indicators (minimum of two required face Soil Cracks (B6) resely Vegetated Concave Surface (B8) nage Patterns (B10) dized Rhizospheres on Living Roots (Cohere tilled) refish Burrows (C8) uration Visible on Aerial Imagery (C9) morphic Position (D2) c-Neutral Test (D5) st-Heave Hummocks (D7) (LRR F)

Project/Site: Kindsfater	City/County: Yellow:	stone Samp	ling Date: 6/21/2022
		State: Montana Sampl	
Investigator(s): W Fouts			
Landform (hillslope, terrace, etc.); Low bench	Local relief (concave	e. convex. none); convex	Slope (%): 2
Subregion (LRR): LRR F Lat:	45.6952	31 <sub>Long:</sub> 108.695	845 <sub>Datum:</sub> NAD 83
Subregion (LRR): LRR F Lat: Soil Map Unit Name: Bm: Bew silty clay loam, 0 to 1 percent slop	es	NWI classification:	Not mapped
Are climatic / hydrologic conditions on the site typical for this time of ye	ar? Yes <u>✓</u> No	(If no, explain in Remarks	;.)
Are Vegetation, Soil, or Hydrology significantly			
Are Vegetation, Soil, or Hydrology naturally pro	blematic? (If	needed, explain any answers in Re	emarks.)
SUMMARY OF FINDINGS – Attach site map showing			
		Totalions, dansood, imp	
Hydrophytic Vegetation Present? Yes No	Is the Sample		
Hydric Soil Present? Yes □ No ✓   Wetland Hydrology Present? Yes □ No ✓	within a Wetl	and? Yes N	lo <u> </u>
Wetland Hydrology Present? Yes No No Remarks: Upland data point located at the E edge of wetland c	-11 7		
Opiana data point located at the E edge of wetland o	∌II <i>1</i> .		
VEGETATION - Use scientific names of plants			
Absolute Domiant	t Indicator	Dominanca Tost workshoot	
Tree Stratum Plot size (30 Foot Radius) % Cover: Species		Dominance Test worksheet  Number of Dominant Species	
		that are OBL, FACW or FAC:	
		Total Number of Dominant Species Across All Strata:	2 (B)
Sapling/Shrub Stratum Plot size (15 Foot Radius)		Percent of Dominant Species That Are OBL, FACW, or FAC	
Outpining/on an Orientalia		Prevalence Index workshee	
		Total % Cover of:	Multiply by:
		OBL species 0 X FACW species 0 X	
		FAC species 0 X	
District / 5 Foot Dadius)		FACU species 90 X	
Herbaceous Stratum     Plot size ( 5 Foot Radius)       Elymus repens     40 ✓	FACU	UPL species 0 X	
Elymus repens 40  Poa pratensis 50	FACU	Column Totals 90	(A) 360 (B)
1 od pratoriois	17.00	Prevalence Index = B/A	4.00
		Hydrophytic Vegetation Ind	•
		1 - Rapid Test for Hyd	
		2 - Dominance Test is	
		3 - Prevalence Index	
		4 - Morphological Ada supporting data in ren sheet.	
		5 - Wetland Non-Vaso	cular Plants
			tic Vegetation (Explain)
Woody Vine Stratum Plot size ( 30 Foot Radius)		Indicators of hydric sil and wetl present, unless disturbed or pre	and hydrology must be
		Hydrophytic Vegetation Present?	Yes NO
Percent Bare Ground 10 Remarks:		FIESEIL:	
Data point is dominated by upland vegetation.			

SOIL Sampling Point: DP06u Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features % Loc<sup>2</sup> Color (moist) Color (moist) Texture (inches) Remarks 0-16 5/2 100 10YR Silty Clay Cobbly <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils<sup>3</sup>: Histosol (A1) 1 cm Muck (A9) (**LRR I, J**) Sandy Gleyed Matrix (S4) Histic Epipedon (A2) Sandy Redox (S5) Coast Prairie Redox (A16) (LRR F, G, H) Stripped Matrix (S6) Black Histic (A3) Dark Surface (S7) (LRR G) Loamy Mucky Mineral (F1) High Plains Depressions (F16) Hydrogen Sulfide (A4) (LRR H outside of MLRA 72 & 73) Stratified Layers (A5) (LRR F) Loamy Gleyed Matrix (F2) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) Reduced Vertic (F18) Redox Dark Surface (F6) Red Parent Material (TF2) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Thick Dark Surface (A12) Other (Explain in Remarks) Sandy Mucky Mineral (S1) Redox Depressions (F8) High Plains Depressions (F16) <sup>3</sup>Indicators of hydrophytic vegetation and 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) 5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H) wetland hydrology must be present. unless disturbed or problematic. Restrictive Layer (if present): Type: **Hydric Soil Present?** Depth (inches): Remarks: No hydric soil indicators observed. **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Salt Crust (B11) Surface Soil Cracks (B6) High Water Table (A2) Aquatic Invertebrates (B13) Sparsely Vegetated Concave Surface (B8) Saturation (A3) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) Water Marks (B1) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Drift Deposits (B3) (where not tilled) Crayfish Burrows (C8) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Thin Muck Surface (C7) Geomorphic Position (D2) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Frost-Heave Hummocks (D7) (LRR F) Field Observations: Yes No Depth (inches): Surface Water Present? Yes \_\_\_\_ No \_\_\_ Depth (inches): Water Table Present? Wetland Hydrology Present? Yes \_\_\_\_ No \_\_\_ Saturation Present? Yes \_\_\_\_ No \_\_\_ Depth (inches): \_\_\_ (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: No evidence of wetland hydrology observed.

Project/Site: Kindsfater	City/County: Yellowsto	one Sampling Date: 6/21/2022
Applicant/Owner: MDT		State: Montana Sampling Point: DP06w
Investigator(s): W Fouts	Section, Township, Rar	nge: 6 2S 25E
Landform (hillslope, terrace, etc.): Channel		
Subregion (LRR): LRR F	Lat: 45.695254	Long:108.695922 Datum: NAD 83
Soil Map Unit Name: Bm: Bew silty clay loam, 0 to 1 perce	ent slopes	NWI classification: Not mapped
Are climatic / hydrologic conditions on the site typical for this ti	me of year? Yes 🗹 No	(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology sign		
Are Vegetation, Soil, or Hydrology natu	urally problematic? (If nee	eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map sh		
Hydrophytic Vegetation Present?  Hydric Soil Present?  Wetland Hydrology Present?  Yes  No No No	is the Sampled	Area d? Yes <u>✔</u> No □
Remarks: Wetland data point located within cell 7.  VEGETATION - Use scientific names of plants		
Absolute	Domiant Indicator	Dominance Test worksheet
Tree Stratum Plot size (30 Foot Radius) % Cover:	Species? Status	Number of Dominant Species that are OBL, FACW or FAC:
		Total Number of Dominant Species Across All Strata:  1 (B)
Sapling/Shrub Stratum Plot size (15 Foot Radius)		Percent of Dominant Species That Are OBL, FACW, or FAC:  100.0 % (A/B)
,		Prevalence Index worksheet
		Total % Cover of: Multiply by:  OBL species 0 X 1 0
		FACW species 90 X 2 180
		FAC species 5 X 3 15
Herbaceous Stratum Plot size ( 5 Foot Radius)		FACU species 0 X 4 0
Bromus tectorum 5	UPL	UPL species 5 X 5 25
Juncus balticus 80	<b>✓</b> FACW	Column Totals 100 (A) 220 (B)
Poa palustris 10	FACW	Prevalence Index = B/A = 2.20
Rumex crispus 5	FAC	Hydrophytic Vegetation Indicators
		✓ 1 - Rapid Test for Hydrophytic Vegetation
		✓ 2 - Dominance Test is >50%
		✓ 3 - Prevalence Index is <= 3.0
		<ul> <li>4 - Morphological Adaptations (Provide supporting data in remarks or on separate sheet.</li> </ul>
		5 - Wetland Non-Vascular Plants
		Problematic Hydrophytic Vegetation (Explain)
Woody Vine Stratum Plot size ( 30 Foot Radius)		Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5.
Percent Bare Ground 0		Hydrophytic Vegetation Yes ✓ NO
Remarks:		
Evidence of hydrophytic vegetation includes a positive equal to 3.0.	rapid test, a positive domina	nce test, and a prevalence index less than or

OIL									Sampling Point: DP06w
Profile Desc	ription: (Describe	to the de	pth neede	d to docun	nent the i	ndicator	or conf	irm the absence	of indicators.)
Depth	Matrix				x Features			_	
(inches)	Color (moist)	%	Color	(moist)	%	_Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-16+	10YR 5/2	96	7.5YR	4/6	1	С	M,PL	Silty Clay	
0-16+			N	2.5/0	3	D	M,PL	Silty Clay	
	oncentration, D=De Indicators: (Applie						ed Sand		ation: PL=Pore Lining, M=Matrix.  for Problematic Hydric Soils <sup>3</sup> :
Black Hi Hydroge Stratified 1 cm Mu Depleted Thick Da Sandy M 2.5 cm M	pipedon (A2) stic (A3) sn Sulfide (A4) d Layers (A5) (LRR ack (A9) (LRR F, G, d Below Dark Surface ark Surface (A12) Mucky Mineral (S1) Mucky Peat or Peat (S0)	H) ce (A11) (S2) (LRR	_	Sandy F Stripped Loamy I Loamy I Depleted Redox I Redox I High Pla	Gleyed Ma Redox (S5 Mucky Min Gleyed Ma d Matrix (F Dark Surfa d Dark Su Depression ains Depre RA 72 & 7	) ieral (F1) atrix (F2) F3) ce (F6) rface (F7 ns (F8) essions (F	) -16)	Coast F  Dark Si  High Pl  (LRI  Reduce  Red Pa  Very SI  Other (  3Indicators of wetland	luck (A9) (LRR I, J) Prairie Redox (A16) (LRR F, G, H) urface (S7) (LRR G) lains Depressions (F16) R H outside of MLRA 72 & 73) led Vertic (F18) urent Material (TF2) hallow Dark Surface (TF12) Explain in Remarks) of hydrophytic vegetation and I hydrology must be present, disturbed or problematic.
Restrictive I	Layer (if present):								
Туре:									
Depth (in	ches):							Hydric Soil	Present? Yes <u>V</u> No
	nings.	or princ cor	- Identifation	ils iew air	u promin	епі чері	etetions	s many within the	e depleted matrix and along pore
Netland Hv	drology Indicators	<u> </u>							
Primary Indic Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatic Water-S	cators (minimum of exators (minimum of exators (minimum of exators (A1))  Inter Table (A2)  Inter Table (A2)  Inter Table (B2)  Inter Tabl	one require		Salt Crust Aquatic Inv Hydrogen S Dry-Seaso Oxidized R	(B11) vertebrates Sulfide Oc n Water T Rhizospher not tilled) of Reduce Surface (	dor (C1) able (C2) res on Liv d Iron (C	ing Roo	Surfa Spar Spar Drair Cyid ts (C3) (wl) Cray Satu Geor	ry Indicators (minimum of two required) ace Soil Cracks (B6) sely Vegetated Concave Surface (B8) nage Patterns (B10) ized Rhizospheres on Living Roots (C3 here tilled) fish Burrows (C8) ration Visible on Aerial Imagery (C9) morphic Position (D2) -Neutral Test (D5) t-Heave Hummocks (D7) (LRR F)
Field Obser	vations:								
Surface Wate Water Table		/es <u>□</u> /es <u>▼</u>	No	Depth (ind		7	_		
Saturation Pi includes cap		es 🔽	No	Depth (inc		0	_   w	etland Hydrology	Present? Yes No
	corded Data (stream	n gauge, m	onitoring v	vell, aerial p	photos, pre	evious in:	spection	s), if available:	
Remarks: Ev	vidence of wetland	l hydrolog	y include	s high wat	er table,	saturati	on to the	e soil surface, ge	eomorphic position, oxidized
rhi	zospheres on livi	ng roots, a	and a pos	itive FAC-	Neutral t	est.			

Project/Site: Kindsfater C	ity/County: Yellowsto	one Sampling Dat	te: 6/21/2022
		State: Montana Sampling Poi	
Investigator(s): J Trilling			
Landform (hillslope, terrace, etc.): Hillside			
Subregion (LRR): LRR F Lat:			
Subregion (LRR)	10.0001.0	Z Long. Not ma	atum. <u>· · · · - · · ·</u>
Soil Map Unit Name: Wf: Wanetta clay loam, 0 to 1 percent slopes		NVVI classification:	ррсч
Are climatic / hydrologic conditions on the site typical for this time of year			
Are Vegetation, Soil, or Hydrology significantly d	sturbed? Are "l	Normal Circumstances" present? Yes	No
Are Vegetation, Soil, or Hydrology naturally prob	lematic? (If ne	eded, explain any answers in Remarks.	.)
SUMMARY OF FINDINGS – Attach site map showing s	sampling point lo	ocations, transects, important	features, etc.
Hydrophytic Vegetation Present? Yes No	Is the Sampled	Area	
Hydric Soil Present? Yes No ✓ Wetland Hydrology Present? Yes No ✓		nd? Yes 🗌 No 🔽	<u></u>
Remarks: Upland data point located near the NE corner of cell 9			
VEGETATION III a calculation compared at plants			
VEGETATION - Use scientific names of plants  Absolute Domiant	Indicator	<del></del>	
Tree Stratum Plot size (30 Foot Radius) Absolute Domiant % Cover: Species?	Status	Dominance Test worksheet	
		Number of Dominant Species that are OBL, FACW or FAC:	0 (A)
		Total Number of Dominant Species Across All Strata:	3 (B)
Sapling/Shrub Stratum Plot size (15 Foot Radius)		Percent of Dominant Species That Are OBL, FACW, or FAC:	0.0 % (A/B)
outpining on an occurrence (10		Prevalence Index worksheet	
			Multiply by:
		OBL species 0 X 1	0
		FACW species 0 X 2 FAC species 0 X 3	0
		FACU species 20 X 4	80
Herbaceous Stratum Plot size ( 5 Foot Radius)		UPL species 70 X 5	350
	UPL	Column Totals 90 (A)	430 (B)
	UPL		
	FACU UPL	Prevalence Index = B/A =	4.78
Elouidili cicutandin	UPL	Hydrophytic Vegetation Indicators	
		1 - Rapid Test for Hydrophyti	•
		2 - Dominance Test is >50%	
		3 - Prevalence Index is <= 3.	.0
		4 - Morphological Adaptation supporting data in remarks or	
		sheet.  5 - Wetland Non-Vascular Pla	anta
Woody Vine Stratum Plot size ( 30 Foot Radius)		☐ Problematic Hydrophytic Veg	, , ,
1100d, 1110 Guatam		Indicators of hydric sil and wetland hyd present, unless disturbed or problemat	
Percent Bare Ground 10		Hydrophytic Vegetation Present?	□ NO 🗹
Remarks:			
Data point is dominated by upland vegetation.			

SOIL Sampling Point: DP07u Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features % Loc<sup>2</sup> Color (moist) Color (moist) Texture (inches) Remarks 0 - 15100 10YR 4/3 Sandy Loam Cobbly <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils<sup>3</sup>: Histosol (A1) 1 cm Muck (A9) (**LRR I, J**) Sandy Gleyed Matrix (S4) Histic Epipedon (A2) Sandy Redox (S5) Coast Prairie Redox (A16) (LRR F, G, H) Stripped Matrix (S6) Black Histic (A3) Dark Surface (S7) (LRR G) Loamy Mucky Mineral (F1) High Plains Depressions (F16) Hydrogen Sulfide (A4) (LRR H outside of MLRA 72 & 73) Stratified Layers (A5) (LRR F) Loamy Gleyed Matrix (F2)  $\perp$  1 cm Muck (A9) (**LRR F, G, H**) Depleted Matrix (F3) Reduced Vertic (F18) Redox Dark Surface (F6) Red Parent Material (TF2) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Thick Dark Surface (A12) Other (Explain in Remarks) Sandy Mucky Mineral (S1) Redox Depressions (F8) High Plains Depressions (F16) <sup>3</sup>Indicators of hydrophytic vegetation and 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) 5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H) wetland hydrology must be present. unless disturbed or problematic. Restrictive Layer (if present): Type: **Hydric Soil Present?** Depth (inches): Remarks: No hydric soil indicators observed. **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Salt Crust (B11) Surface Soil Cracks (B6) High Water Table (A2) Aquatic Invertebrates (B13) Sparsely Vegetated Concave Surface (B8) Saturation (A3) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) Water Marks (B1) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Drift Deposits (B3) (where not tilled) Crayfish Burrows (C8) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Thin Muck Surface (C7) Geomorphic Position (D2) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Frost-Heave Hummocks (D7) (LRR F) Field Observations: Yes No Depth (inches): Surface Water Present? Yes \_\_\_\_ No \_\_\_ Depth (inches): \_ Water Table Present? Wetland Hydrology Present? Yes \_\_\_\_ No \_\_\_ Saturation Present? Yes \_\_\_\_ No \_\_\_ Depth (inches): \_\_\_ (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: No evidence of wetland hydrology observed.

Project/Site: Kindsfater	City/Cou	<sub>unty:</sub> Yellowstone	Sampling [	Date: 6/21/2022
			State: Montana Sampling P	
		, Township, Range:		
Landform (hillslope, terrace, etc.): lowland				
Subregion (LRR): LRR F				
Soil Map Unit Name: Wf: Wanetta clay loam, 0 to 1 percent				Парреч
Are climatic / hydrologic conditions on the site typical for this ti				
Are Vegetation, Soil, or Hydrology sign				
Are Vegetation, Soil, or Hydrology nati	urally problemation	c? (If needed, ex	xplain any answers in Remark	ks.)
SUMMARY OF FINDINGS – Attach site map sh	nowing samp	oling point location	ns, transects, importa	nt features, etc.
Hydrophytic Vegetation Present? Yes No _		s the Sampled Area		
Hydric Soil Present? Yes V No Wetland Hydrology Present? Yes No			Yes No _	
		Vitimi a Victions.		
Remarks: Wetland data point located within wetland cel		<del></del>		
<b>VEGETATION</b> - Use scientific names of plants	 }			
Tree Streeture Plet size (20 Feet Pedius) Absolute	Domiant Indi	icator Dom	inance Test worksheet	
<u>Iree Stratum</u> Plot size (30 Poot Radius) % Cover:	Species? Stat	tus	ber of Dominant Species	
			are OBL, FACW or FAC:	2 (A)
			l Number of Dominant cies Across All Strata:	3 (B)
Sapling/Shrub Stratum Plot size (15 Foot Radius)			ent of Dominant Species Are OBL, FACW, or FAC:	66.7 % (A/B)
Populus deltoides 5	☐ FAC	Prev	alence Index worksheet	
Salix exigua 40	FAC	w	Total % Cover of:	Multiply by:
Cana Cangua	<b>V</b> · · -	OBL	species 15 X 1	15
			W species 92 X 2	184
			species 5 X 3 U species 30 X 4	15
Herbaceous Stratum Plot size ( 5 Foot Radius)		UPL	species 30 X 4	0
Juncus balticus 52	<b>✓</b> FACV	<u>//</u>		
Poa pratensis 30	<b>▼</b> FACU	<u>J</u> Colui	mn Totals 142 (A)	334 (B)
Schoenoplectus pungens 15	☐ OBL	F	Prevalence Index = B/A =	2.35
		Hydr	rophytic Vegetation Indicato	ors
			☐ 1 - Rapid Test for Hydroph	ytic Vegetation
			2 - Dominance Test is >50	%
			3 - Prevalence Index is <=	3.0
			4 - Morphological Adaptation	ons (Provide
			supporting data in remarks sheet.	
			5 - Wetland Non-Vascular	Plants
			Problematic Hydrophytic V	egetation (Explain)
Woody Vine Stratum Plot size ( 30 Foot Radius)			tors of hydric sil and wetland h	nydrology must be
Percent Bare Ground 3		Hydr	rophytic Vocatation	s V NO
Remarks:				
Evidence of hydrophytic vegetation includes a positive	dominance tes	st and a prevalence ir	ndex less than or equal to	3.0.

Profile Desc	cription: (Descrik	e to the dep	oth needed	to docum	nent the i	ndicator	or confir	m the absence o	of indicators.)
Depth	Matrix				x Features			_	
(inches)	Color (moist)	%	Color (	moist)	%	Type <sup>1</sup>	Loc <sup>2</sup> _	Texture	Remarks
0-14	10YR 5/1	98	7.5YR	4/6	2	С	PL	Clay	
14+								Rock bottom	Rock refusal
_									
-								<del>-</del>	
-			-				-		
							-		
	oncentration, D=D Indicators: (App						ed Sand (		ation: PL=Pore Lining, M=Matrix. For Problematic Hydric Soils <sup>3</sup> :
_		licable to all	LRRS, uni	-		-			
Histosol	pipedon (A2)			_	Gleyed Ma Redox (S5)				uck (A9) ( <b>LRR I, J</b> ) Prairie Redox (A16) ( <b>LRR F, G, H</b> )
	istic (A3)			_	l Matrix (S			_	urface (S7) ( <b>LRR G</b> )
	en Sulfide (A4)			_	Nucky Min	-			ains Depressions (F16)
	d Layers (A5) ( <b>LRI</b>			= -	Gleyed Ma				R H outside of MLRA 72 & 73)
_	uck (A9) ( <b>LRR F, G</b>		<u> </u>	_	d Matrix (F			=	d Vertic (F18)
	d Below Dark Surf ark Surface (A12)	ace (A11)	<u> </u>	=	Dark Surfa d Dark Su		`		rent Material (TF2) nallow Dark Surface (TF12)
_	Ank Surface (A12) Mucky Mineral (S1)	<b>\</b>			Dark Sur Depression		,		Explain in Remarks)
_	Mucky Peat or Pea		G, H) 🗀	=	ins Depre		16)		of hydrophytic vegetation and
5 cm Mu	ucky Peat or Peat	(S3) ( <b>LRR F</b> )		(MLI	RA 72 & 7	3 of LRF	RH)	wetland	hydrology must be present,
								unless	disturbed or problematic.
								4111000 (	
Restrictive	Layer (if present)	:							
Туре:									
Type: Depth (in	ches):							Hydric Soil I	Present? Yes <u>V</u> No _
Type: Depth (in Remarks: P	ches):rominent redoxir	norphic cor	 ncentration	ns commo	on along	pore linii	ngs of th	Hydric Soil I	
Type: Depth (in Remarks: P	ches):	norphic cor	 ucentration	ns commo	on along	pore linii	ngs of th	Hydric Soil I	Present? Yes <u>V</u> No _
Type: Depth (in Remarks: P	ches):rominent redoxir	norphic cor		ns commo	on along	pore liniı	ngs of th	Hydric Soil I	Present? Yes <u>V</u> No _
Type: Depth (in- emarks: p ex	ches): rominent redoxir xcavation beyon	norphic cor	ncentration	ns commo	on along	pore linii	ngs of th	Hydric Soil I	Present? Yes <u>V</u> No _
Type: Depth (in Remarks: p ex	ches): rominent redoxir xcavation beyon	morphic cor d 14".	ncentration	ns commo	on along	pore linii	ngs of th	Hydric Soil I	Present? Yes <u>V</u> No _
Type: Depth (in Remarks: P e)  YDROLO	ches):rominent redoxir xcavation beyon	morphic cor d 14".				pore linii	ngs of th	Hydric Soil I e depleted mat	Present? Yes <u>V</u> No _
Type: Depth (in: Remarks: p e)  YDROLO Vetland Hyderimary Indice	ches):rominent redoxir xcavation beyon PGY drology Indicator cators (minimum o	morphic cor d 14".	d; check al		<i>(</i> )	pore linii	ngs of th	Hydric Soil I e depleted mat	Present? Yes V No I
Type: Depth (in: emarks: p ex  /DROLO /etland Hy- rimary Indice	ches):rominent redoxir xcavation beyon	morphic cor d 14".	d; check al	I that apply	/)(B11)		ngs of th	Hydric Soil I e depleted mat	Present? Yes V No V N
Type: Depth (in: Remarks: p ex  YDROLO Vetland Hy rimary Indice	ches):	morphic cor d 14".	<u>d; check al</u> ☐ \$	<u>l that appl</u> y Salt Crust (	/) (B11) vertebrates	s (B13)	ngs of th	Hydric Soil I  e depleted mat  Secondar  Surfa  Spars	Present? Yes V No V N
Type: Depth (in lemarks: Period of the	ches):	morphic cor d 14".	d; check al	I that apply Salt Crust (	/) (B11) vertebrates Sulfide Od	s (B13) lor (C1)		Hydric Soil I  e depleted mate  Secondar  Surfa  Spars	Present? Yes No rix. Rock refusal limited  y Indicators (minimum of two requires Soil Cracks (B6) sely Vegetated Concave Surface
Type: Depth (in: emarks: p e)  /DROLO /etland Hy rimary India _ Surface _ High Wa _ Saturatia _ Water M	rominent redoxir xcavation beyon  GY  drology Indicator cators (minimum o Water (A1) ater Table (A2) on (A3)	morphic cor d 14".	d; check al	I that apply Salt Crust ( Aquatic Inv Hydrogen (	/) (B11) /ertebrates Sulfide Od n Water T	s (B13) lor (C1) able (C2)		Hydric Soil I e depleted mate  Secondar Surfa Spars Drain Oxidi s (C3) (wh	Present? Yes No  rix. Rock refusal limited  ry Indicators (minimum of two requires Soil Cracks (B6) and Patterns (B10) are Rock Refusal Recognition (B10) are Rock Recognition (B10) are tilled)
Type:	rominent redoxing xcavation beyond a decided with the cators (minimum of the cators (minimu	morphic cor d 14".	d; check al	I that apply Salt Crust ( Aquatic Inv Hydrogen S Dry-Seaso Oxidized R (where n	(B11) vertebrates Sulfide Od n Water T thizospher <b>not tilled</b> )	s (B13) lor (C1) able (C2) res on Liv	) ving Roots	Hydric Soil I e depleted mate  Secondar Surfa Spars Drain Oxidi s (C3) (wh	Present? Yes No  rix. Rock refusal limited  y Indicators (minimum of two requires Soil Cracks (B6) sely Vegetated Concave Surface (Bage Patterns (B10)) zed Rhizospheres on Living Roots here tilled) fish Burrows (C8)
Type:	ches):	morphic cor d 14".	d; check al	I that apply Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized R (where n	(B11) vertebrates Sulfide Od n Water T thizospher not tilled) of Reduce	s (B13) lor (C1) able (C2) res on Liv	) ving Roots	Hydric Soil I e depleted mati  Secondar Surfa Spars Drain Oxidi s (C3) (with Crayling Satur	Present? Yes No  rix. Rock refusal limited  y Indicators (minimum of two requires Soil Cracks (B6) sely Vegetated Concave Surface (Bage Patterns (B10)) zed Rhizospheres on Living Rootenere tilled) fish Burrows (C8) ration Visible on Aerial Imagery (C
Type:	ches):	morphic cond 14".	d; check al	I that apply Salt Crust of Aquatic Inv Hydrogen S Dry-Season Dxidized R (where in Presence of	(B11) vertebrates Sulfide Od n Water T chizospher not tilled) of Reduces	s (B13) lor (C1) able (C2) res on Liv d Iron (C4	) ving Roots	Secondar Surfa Surfa Spars Drain Oxidi S (C3) Wh Crayi	Present? Yes No rix. Rock refusal limited  y Indicators (minimum of two requires Soil Cracks (B6) sely Vegetated Concave Surface (B10) age Patterns (B10) age Patterns (B10) are tilled) fish Burrows (C8) ration Visible on Aerial Imagery (Conorphic Position (D2)
Type:	rominent redoxing xcavation beyond a cators (minimum of Water (A1) and the Table (A2) on (A3) and the Cators (B1) and the Cators (B2) posits (B3) and or Crust (B4) posits (B5) on Visible on Aerica	morphic cord 14".  S: fone require	d; check al	I that apply Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized R (where n	(B11) vertebrates Sulfide Od n Water T chizospher not tilled) of Reduces	s (B13) lor (C1) able (C2) res on Liv d Iron (C4	) ving Roots	Hydric Soil Face depleted mate  Secondar Surfa Spars Drain Oxidi S (C3) (wh Crayt Satur Geor	Present? Yes No No rix. Rock refusal limited  Ty Indicators (minimum of two requires Soil Cracks (B6) sely Vegetated Concave Surface (age Patterns (B10) zed Rhizospheres on Living Rootenere tilled) fish Burrows (C8) ration Visible on Aerial Imagery (Conorphic Position (D2) (Neutral Test (D5)
Type:	rominent redoxing xcavation beyond at a cators (minimum of water (A1) at a cators (B2) at or Crust (B4) posits (B3) at or Crust (B4) posits (B5) at or Visible on Aeria stained Leaves (B9)	morphic cord 14".  S: fone require	d; check al	I that apply Salt Crust of Aquatic Inv Hydrogen S Dry-Season Dxidized R (where in Presence of	(B11) vertebrates Sulfide Od n Water T chizospher not tilled) of Reduces	s (B13) lor (C1) able (C2) res on Liv d Iron (C4	) ving Roots	Hydric Soil Face depleted mate  Secondar Surfa Spars Drain Oxidi S (C3) (wh Crayt Satur Geor	Present? Yes No rix. Rock refusal limited  y Indicators (minimum of two requires Soil Cracks (B6) sely Vegetated Concave Surface (B10) age Patterns (B10) age Patterns (B10) are tilled) fish Burrows (C8) ration Visible on Aerial Imagery (Conorphic Position (D2)
Type:	ches):	morphic cond 14".  "s: f one require  al Imagery (B	d; check al	I that apply Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Dxidized R (where n Presence of Thin Muck Other (Exp	(B11) vertebrates Sulfide Od n Water T chizospher not tilled) of Reduces Surface (G	s (B13) lor (C1) able (C2) res on Liv d Iron (C4	) ving Roots	Hydric Soil Face depleted mate  Secondar Surfa Spars Drain Oxidi S (C3) (wh Crayt Satur Geor	Present? Yes No No rix. Rock refusal limited  Ty Indicators (minimum of two requires Soil Cracks (B6) sely Vegetated Concave Surface (age Patterns (B10) zed Rhizospheres on Living Rootenere tilled) fish Burrows (C8) ration Visible on Aerial Imagery (Conorphic Position (D2) (Neutral Test (D5)
Type:	ches):	morphic cond 14".  Ts: f one require  al Imagery (B	d; check al	I that apply Salt Crust of Aquatic Inv Hydrogen S Dry-Season Dxidized R (where n Presence of Thin Muck Other (Exp	(B11) vertebrates Sulfide Od n Water T chizospher not tilled) of Reduce Surface (Galain in Reduces)	s (B13) lor (C1) able (C2) res on Liv d Iron (C4 C7) marks)	) ving Roots	Hydric Soil Face depleted mate  Secondar Surfa Spars Drain Oxidi S (C3) (wh Crayt Satur Geor	Present? Yes No No rix. Rock refusal limited  Ty Indicators (minimum of two requires Soil Cracks (B6) sely Vegetated Concave Surface (age Patterns (B10) zed Rhizospheres on Living Rootenere tilled) fish Burrows (C8) ration Visible on Aerial Imagery (Conorphic Position (D2) (Neutral Test (D5)
Type:	rominent redoxing xcavation beyond actors (minimum of water (A1) ater Table (A2) on (A3) arks (B1) at or Crust (B4) posits (B3) at or Crust (B4) posits (B5) at or Visible on Aeria stained Leaves (B9) wations:  ter Present?  Present?	morphic cond 14".  Ts: f one require  al Imagery (B	d; check al	I that apply Salt Crust ( Aquatic Inv Hydrogen S Dry-Season Dxidized R (where n Presence of Thin Muck Dther (Exp	(B11) vertebrates Sulfide Od n Water T chizospher not tilled) of Reduce Surface (Collain in Recolled)	s (B13) lor (C1) able (C2) res on Liv d Iron (C4 C7) marks)	ving Roots	Hydric Soil I  e depleted mate  Secondar  Surfa  Spars  Oxidi  (WI  Crayl  Geor  FAC- Frost	Present? Yes No No rix. Rock refusal limited  Ty Indicators (minimum of two requires Soil Cracks (B6) sely Vegetated Concave Surface (Bage Patterns (B10) zed Rhizospheres on Living Rootenere tilled) fish Burrows (C8) ration Visible on Aerial Imagery (Canorphic Position (D2) Neutral Test (D5) -Heave Hummocks (D7) (LRR F)
Type:	rominent redoxing xcavation beyond a torongy Indicator cators (minimum of water (A1) and the Table (A2) on (A3) and (A3)	morphic cond 14".  Ts: f one require  al Imagery (B	d; check al	I that apply Salt Crust of Aquatic Inv Hydrogen S Dry-Season Dxidized R (where n Presence of Thin Muck Other (Exp	(B11) vertebrates Sulfide Od n Water T chizospher not tilled) of Reduce Surface (Collain in Recolled)	s (B13) lor (C1) able (C2) res on Liv d Iron (C4 C7) marks)	ving Roots	Hydric Soil I  e depleted mate  Secondar  Surfa  Spars  Oxidi  (WI  Crayl  Geor  FAC- Frost	Present? Yes No No rix. Rock refusal limited  Ty Indicators (minimum of two requires Soil Cracks (B6) sely Vegetated Concave Surface (age Patterns (B10) zed Rhizospheres on Living Rootenere tilled) fish Burrows (C8) ration Visible on Aerial Imagery (Conorphic Position (D2) (Neutral Test (D5)
Type:	rominent redoxing xcavation beyond actors (minimum of water (A1) ater Table (A2) on (A3) arks (B1) at or Crust (B4) posits (B3) at or Crust (B4) posits (B5) at or Visible on Aeria stained Leaves (B9) wations:  ter Present?  Present?	morphic cond 14".  Tes:  f one require  Yes  Yes  Yes	d; check al	I that apply Salt Crust of Aquatic Inv Hydrogen S Dry-Season Dxidized R (where in Presence of Thin Muck Other (Exp  Depth (inco Depth (inco Depth (inco	(B11) vertebrates Sulfide Od n Water T chizospher not tilled) of Reduces Surface (Calain in Reduces):ches):ches):ches):ches):ches):	s (B13) lor (C1) able (C2) res on Liv d Iron (C4 C7) marks)	ving Roots 4) We	Hydric Soil I e depleted mati  Secondar Surfa Spars Oxidi Crayi Satur V Geor FAC- Frost	Present? Yes No No rix. Rock refusal limited  Ty Indicators (minimum of two requires Soil Cracks (B6) sely Vegetated Concave Surface (Bage Patterns (B10) zed Rhizospheres on Living Rootenere tilled) fish Burrows (C8) ration Visible on Aerial Imagery (Canorphic Position (D2) Neutral Test (D5) -Heave Hummocks (D7) (LRR F)
Type:	ches):	morphic cond 14".  Tes:  f one require  Al Imagery (Be)  Yes  Yes  Yes	d; check al	I that apply Salt Crust of Aquatic Inv Hydrogen S Dry-Season Dxidized R (where in Presence of Thin Muck Other (Exp  Depth (inco Depth (inco Depth (inco	(B11) vertebrates Sulfide Od n Water T chizospher not tilled) of Reduces Surface (Calain in Reduces):ches):ches):ches):ches):ches):	s (B13) lor (C1) able (C2) res on Liv d Iron (C4 C7) marks)	ving Roots 4) We	Hydric Soil I e depleted mati  Secondar Surfa Spars Oxidi Crayi Satur V Geor FAC- Frost	Present? Yes No No rix. Rock refusal limited  Ty Indicators (minimum of two requires Soil Cracks (B6) sely Vegetated Concave Surface (Bage Patterns (B10) zed Rhizospheres on Living Rootenere tilled) fish Burrows (C8) ration Visible on Aerial Imagery (Canorphic Position (D2) Neutral Test (D5) -Heave Hummocks (D7) (LRR F)

Applicant/Owner_MOT	Project/Site: Kindsfater	City/County:	Yellowstone		Sampling Date:	6/21/2022
Section, Township, Range						
Landform (hillslope, terrace, etc.): Terrace						
Solf Map Unit Name: Wif: Wantsta clay loam, 0 to 1 percent slopes Solf Map Unit Name: Wif: Wantsta clay loam, 0 to 1 percent slopes NWif classification Not mapped Are United : Mydrophytic Vegetation on the site typical for this time of year? Yes	• , ,					
Soil Map Unit Name.   Mf. Wanetta clay loam, 0 to 1 percent slopes   No						
Are climatic / hydrologic conditions on the site typical for this time of year? Yes						
Are Vegetation	Are elimentia / budgelegie conditions on the cite typical for this time of ve	2 Vas <b>V</b>	, No [	INVVI classific	allon. ···	
Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)  SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present? Yes No V Is the Sampled Area within a Wetland Hydrology Present? Yes No V Is the Sampled Area within a Wetland? Yes No V Is the Sampled Area within a Wetland? Yes No V Is the Sampled Area within a Wetland? Yes No V Is the Sampled Area within a Wetland? Yes No V Is the Sampled Area within a Wetland? Yes No V Is the Sampled Area within a Wetland? Yes No V Is the Sampled Area within a Wetland? Yes No V Is the Sampled Area within a Wetland? Yes No V Is the Sampled Area within a Wetland? Yes No V Is the Sampled Area within a Wetland? Yes No V Is the Sampled Area within a Wetland? Yes No V Is the Sampled Area within a Wetland? Yes No V Is the Sampled Area within a Wetland? Yes No V Is the Sampled Area within a Wetland? Yes No V Is the Sampled Area within a Wetland? Yes No V Is the Sampled Area within a Wetland? Yes No V Is the Sampled Area within a Wetland? Yes No V Is the Sampled Area within a Wetland? Yes No V Is the Sampled Area within a Wetland? Yes No V Is No V Is the Sampled Area within a Wetland? Yes No V Is the Sampled Area within a Wetland? Yes No V Is the Sampled Area within a Wetland? Yes No V Is the Sampled Area within a Wetland? Yes No V Is the Sampled Area within a Wetland? Yes No V Is the Sampled Area within a Wetland? Yes No V Is the Sampled Area within a Wetland? Yes No V Is the Sampled Area within a Wetland? Yes No V Is the Sampled Area within a Wetland? Yes No V Is the Sampled Area within a Wetland? Yes No V Is the Sampled Area within a Wetland? Yes No V Is the Sampled Area within a Wetland? Yes No V Is the Sampled Area within a Wetland? Yes No V Is the Sampled Area within a Wetland? Yes No V Is the Sampled Area within a Wetland? Yes No V Is the Sampled Area within a Wetland? Yes No V Is the Sampled Area within a Wetland Provide Sampled Area within a Wetland P						/ Na 🗆
SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present?						□ No <u>□</u>
Hydrophytic Vegetation Present? Yes No Welland Hydrology Melland data point located near Wedge of cell 15.    VEGETATION - Use scientific names of plants						
Hydric Soil Present? Yes No ✓ within a Wetland? Yes No ✓ Wetland Hydrology Present? Yes No ✓ Within a Wetland? Yes No ✓ Wetland Hydrology Present? Yes No ✓ Within a Wetland? Yes No ✓ Wetland Hydrology Present? Yes No ✓ Within a Wetland? Yes No ✓ Wetland Hydrology Present? Yes No ✓ Within a Wetland? Yes No ✓ Wetland Hydrology must be present? Yes No ✓ Wetland Non-Vascular Plants    VEGETATION - Use scientific names of plants		sampiing	point locaus	Ons, transects	, important is	eatures, etc.
Hydric Soil Present?  Ves No Weltand Hydrology Pres	Hydrophytic Vegetation Present?  Yes No	Is the	Sampled Area			
VEGETATION - Use scientific names of plants	Hydric Soil Present?  Wetland Hydrology Present?  Yes No  No	withir	ո a Wetland?	Yes	No V	_
VEGETATION - Use scientific names of plants						
Dominance Test worksheet   Number of Dominant Species   Number of Dominant Species that are OBL, FACW or FAC:						
Tree Stratum						
Tree Stratum   Plot size (30   Foot Radius) % Cover: Species? Status   Number of Dominant Species that are OBL, FACW or FAC:	VEGETATION - Use scientific names of plants					
Number of Dominant Species that are OBL, FACW or FAC:			Dor	minance Test wor	ksheet	
Sapling/Shrub Stratum  Plot size (15 Foot Radius)  Herbaceous Stratum  Plot size (5 Foot Radius)  Bromus inermis  Bromus fectorum  Elymus repens  10	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	· Oldido				0 (A)
Plot size (15 Foot Radius)   Plot size (15 Foot Radius)   Plot size (15 Foot Radius)   Prevalence Index worksheet   Total % Cover of:						2 (B)
Herbaceous Stratum Plot size ( 5 Foot Radius)  Bromus inermis 30 V UPL Elymus repens 10 FACU  FACU species 0 X 2 0 FAC species 0 X 3 0 FACU species 10 X 4 40 UPL species 75 X 5 375  Column Totals 85 (A) 415 (B)  Prevalence Index = B/A = 4.88  Hydrophytic Vegetation Indicators 1 - Rapid Test for Hydrophytic Vegetation   2 - Dominance Test is >50%   3 - Prevalence Index is <= 3.0   4 - Morphological Adaptations (Provide supporting data in remarks or on separate sheet.   5 - Wetland Non-Vascular Plants   5 - Wetland Non-Vascular Plants   Fresent? Yes No Yesenarks:	Sanling/Shrub Stratum Plot size (15 Foot Radius)					.0 % (A/B)
Herbaceous Stratum Plot size ( 5 Foot Radius)  Bromus inermis 30	oupming on as or attain					
Herbaceous Stratum Plot size ( 5 Foot Radius)  Bromus inermis 30 V UPL  Bromus repens 10 FACU  FACU species 0 X 2 0  FACU species 10 X 4 40  UPL species 75 X 5 375  Column Totals 85 (A) 415 (B)  Prevalence Index = B/A = 4.88  Hydrophytic Vegetation Indicators  1 - Rapid Test for Hydrophytic Vegetation  2 - Dominance Test is >50%  3 - Prevalence Index is <= 3.0  4 - Morphological Adaptations (Provide supporting data in remarks or on separate sheet.  5 - Wetland Non-Vascular Plants  Problematic Hydrophytic Vegetation (Explain)  Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5.  Hydrophytic Vegetation  Present? Yes NO						
Herbaceous Stratum  Plot size ( 5 Foot Radius)  Bromus inermis				•		
Herbaceous Stratum Plot size ( 5 Foot Radius)  Bromus inermis 30 ✓ UPL  Elymus repens 10 □ FACU  FACU species 75 X 5 375  Column Totals 85 (A) 415 (B)  Prevalence Index = B/A = 4.88  Hydrophytic Vegetation Indicators □ 1 - Rapid Test for Hydrophytic Vegetation □ 2 - Dominance Test is >50% □ 3 - Prevalence Index is <= 3.0 □ 4 - Morphological Adaptations (Provide supporting data in remarks or on separate sheet. □ 5 - Wetland Non-Vascular Plants □ Problematic Hydrophytic Vegetation (Explain)  Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5.  Hydrophytic Vegetation Yes □ NO ✓  Remarks:			FA	C species	_	
Bromus inermis Bromus tectorum 45	Harbassus Chrahum Plot size ( F. Foot Radius)				_	
Bromus tectorum    Bromus tectorum		l IPI	UP	L species	75 X 5	375
Elymus repens  10 FACU  Prevalence Index = B/A = 4.88  Hydrophytic Vegetation Indicators  1 - Rapid Test for Hydrophytic Vegetation  2 - Dominance Test is >50%  3 - Prevalence Index is <= 3.0  4 - Morphological Adaptations (Provide supporting data in remarks or on separate sheet.  5 - Wetland Non-Vascular Plants  Problematic Hydrophytic Vegetation (Explain)  Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5.  Hydrophytic Vegetation Present?  Yes NO  Remarks:			Col	lumn Totals {	35 (A)	415 (B)
Hydrophytic Vegetation Indicators   1 - Rapid Test for Hydrophytic Vegetation   2 - Dominance Test is >50%   3 - Prevalence Index is <= 3.0   4 - Morphological Adaptations (Provide supporting data in remarks or on separate sheet.   5 - Wetland Non-Vascular Plants   Problematic Hydrophytic Vegetation (Explain)			-			
1 - Rapid Test for Hydrophytic Vegetation   2 - Dominance Test is >50%   3 - Prevalence Index is <= 3.0   4 - Morphological Adaptations (Provide supporting data in remarks or on separate sheet.   5 - Wetland Non-Vascular Plants   Problematic Hydrophytic Vegetation (Explain)			Hv			
3 - Prevalence Index is <= 3.0     4 - Morphological Adaptations (Provide supporting data in remarks or on separate sheet.     5 - Wetland Non-Vascular Plants     Problematic Hydrophytic Vegetation (Explain)     Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5.     Hydrophytic Vegetation     Present?   Yes   NO   ✓     Remarks:						egetation/
3 - Prevalence Index is <= 3.0     4 - Morphological Adaptations (Provide supporting data in remarks or on separate sheet.     5 - Wetland Non-Vascular Plants     Problematic Hydrophytic Vegetation (Explain)     Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5.     Hydrophytic Vegetation     Present?   Yes   NO   ✓     Remarks:				_		ū
Woody Vine Stratum  Plot size ( 30 Foot Radius)  Woody Vine Stratum  Problematic Hydrophytic Vegetation (Explain)  Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5.  Hydrophytic Vegetation Present?  Present?  A - Morphological Adaptations (Provide supporting data in remarks or on separate sheet.  Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5.  Hydrophytic Vegetation Present?  NO  ✓  Remarks:						
supporting data in remarks or on separate sheet.  5 - Wetland Non-Vascular Plants  Problematic Hydrophytic Vegetation (Explain)  Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5.  Hydrophytic Vegetation Present?  Percent Bare Ground 15						Provido
Woody Vine Stratum Plot size ( 30 Foot Radius)  Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5.  Hydrophytic Vegetation Present?  Yes □ NO ✔  Remarks:				supporting dat		
Woody Vine Stratum Plot size ( 30 Foot Radius) Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5.  Hydrophytic Vegetation Present?  Remarks:  Percent Bare Ground 15				5 - Wetland No	on-Vascular Plant	S
Woody Vine Stratum Plot size ( 30 Foot Radius) Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5.  Hydrophytic Vegetation Present?  Remarks:  Percent Bare Ground 15				Problematic H	vdrophytic Vegeta	ition (Explain)
Percent Bare Ground 15  Remarks:  Hydrophytic Vegetation Present?  Yes NO V	Woody Vine Stratum Plot size ( 30 Foot Radius)			ators of hydric sil a	nd wetland hydro	logy must be
Remarks:	Porcent Baro Ground 15		Hyd	drophytic Vegetat	ion $ egin{array}{cccccccccccccccccccccccccccccccccccc$	
	Data point is dominated by upland vegetation.					

Sampling Point: DP08u Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features % Loc<sup>2</sup> Color (moist) Color (moist) Texture Remarks (inches) 0-04 2.5Y 4/2 100 Fine and coarse roots Clay Loam 100 04-12 **10YR** 4/3 Sandy Clay Loam 12+ Cobble bottom Rock refusal <sup>2</sup>Location: PL=Pore Lining, M=Matrix. <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils<sup>3</sup>: Histosol (A1) 1 cm Muck (A9) (**LRR I, J**) Sandy Gleyed Matrix (S4) Histic Epipedon (A2) Sandy Redox (S5) Coast Prairie Redox (A16) (LRR F, G, H) Stripped Matrix (S6) Black Histic (A3) Dark Surface (S7) (LRR G) Loamy Mucky Mineral (F1) High Plains Depressions (F16) Hydrogen Sulfide (A4) (LRR H outside of MLRA 72 & 73) Stratified Layers (A5) (LRR F) Loamy Gleyed Matrix (F2) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) Reduced Vertic (F18) Redox Dark Surface (F6) Red Parent Material (TF2) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Thick Dark Surface (A12) Other (Explain in Remarks) Sandy Mucky Mineral (S1) Redox Depressions (F8) High Plains Depressions (F16) <sup>3</sup>Indicators of hydrophytic vegetation and 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) 5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H) wetland hydrology must be present. unless disturbed or problematic. Restrictive Layer (if present): Type: Hydric Soil Present? Yes Depth (inches): Remarks: No hydric soil indicators observed. Gravels and cobbles common throughout the profile. Cobbles and rock refusal limited excavation beyond 12". **HYDROLOGY** Wetland Hydrology Indicators: Secondary Indicators (minimum of two required) Primary Indicators (minimum of one required; check all that apply) 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) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) Water Marks (B1) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Drift Deposits (B3) (where not tilled) Crayfish Burrows (C8) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Thin Muck Surface (C7) Geomorphic Position (D2) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Frost-Heave Hummocks (D7) (LRR F) Field Observations: Yes No Depth (inches): Surface Water Present? Yes \_\_\_\_ No \_\_\_ Depth (inches): Water Table Present? Wetland Hydrology Present? Yes \_\_\_\_\_ No Saturation Present? \_\_ No \_\_**✓** Depth (inches): \_ (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: No evidence of wetland hydrology observed.

SOIL

Project/Site: Kindsfater	City/County: Yellowsto	one Sampling Date: 6/21/20	)22
		State: Montana Sampling Point: DP08w	
	Section, Township, Ran		
Landform (hillslope, terrace, etc.): depression			10
		5 Long:108.692323 _ Datum: NAD 83	
Soil Map Unit Name: Wf: Wanetta clay loam, 0 to 1 percent s			
Are climatic / hydrologic conditions on the site typical for this time of	-fueero Voe V	NVVI Classification	
Are Vegetation, Soil, or Hydrology signification, signification			
Are Vegetation, Soil, or Hydrology naturall	y problematic? (It nee	eded, explain any answers in Remarks.)	
SUMMARY OF FINDINGS – Attach site map show	ving sampling point lo	ocations, transects, important features, e	tc.
Hydrophytic Vegetation Present? Yes No	Is the Sampled	Δτεα	
Hydric Soil Present?       Yes        ✓       No        □         Wetland Hydrology Present?       Yes        ✓       No        □	within a Wetlan		
Remarks: Wetland data point located within cell 15.			
VEGETATION - Use scientific names of plants			
Trace Ctractures Districts (OO Foot Doding)	niant Indicator ecies? Status	Dominance Test worksheet	
	oloo: olalue	Number of Dominant Species that are OBL, FACW or FAC: 2 (A)	
		Total Number of Dominant Species Across All Strata: 3 (B)	
Sapling/Shrub Stratum Plot size (15 Foot Radius)		Percent of Dominant Species That Are OBL, FACW, or FAC:  66.7 % (A/B)	,
Populus deltoides 3	FAC	Prevalence Index worksheet	
Salix lutea 45		Total % Cover of: Multiply by:	_
Salix sp. 1	UPL	OBL species         0 X 1         0           FACW species         65 X 2         130	
		FACW species         65         X 2         130           FAC species         3         X 3         9	
District (5 Foot Bodies)		FACU species 25 X 4 100	
Herbaceous Stratum Plot size ( 5 Foot Radius)	] UPL	UPL species 7 X 5 35	
Bromus inermis 1	J UPL FACU	Column Totals 100 (A) 274 (	(B)
		0.74	υ,
Juncus balticus 20 Poa pratensis 18	_	Trevalence maex - B/A -	
Unidentified forb 5	7	Hydrophytic Vegetation Indicators	
Official Control Contr		1 - Rapid Test for Hydrophytic Vegetation	
		✓ 2 - Dominance Test is >50%	
		✓ 3 - Prevalence Index is <= 3.0	
		<ul> <li>4 - Morphological Adaptations (Provide supporting data in remarks or on separate sheet.</li> </ul>	
		5 - Wetland Non-Vascular Plants	
			,
Woody Vine Stratum Plot size ( 30 Foot Radius)		☐ Problematic Hydrophytic Vegetation (Explain	•
,		Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5.	;
Percent Bare Ground 49		Hydrophytic Vegetation Yes ✓ NO	]
Remarks:			
Evidence of hydrophytic vegetation includes a positive dor	ninance test and a preval	ence index less than 3.0.	

SOIL										Sampling Point: DP08w
Profile Des	cription: (	(Describe	to the de	pth nee	ded to docu	ment the i	ndicator	or confi	rm the absence o	of indicators.)
Depth		Matrix				ox Features		. 2	_	
(inches)	Color	(moist)	%		or (moist)	%	_Type <sup>1</sup>	Loc <sup>2</sup> _	Texture	Remarks
0-06	2.5Y	4/2	98	2.5Y	5/4	2	С	M	Clay Loam	
06-10	10YR	4/2	100						Sand	
10+									Rock bottom	Rock refusal
							-	-		
			_							
			_							
	· -			-						
1Type: C=C	`	on D-Do	alatian DN		and Matrix C					stion: DI - Doro Lining M-Matrix
					ed Matrix, Countries of the			ed Sand (		ation: PL=Pore Lining, M=Matrix.  or Problematic Hydric Soils <sup>3</sup> :
Histoso		s. (Applic	Judic to u	ii Litito,		Gleyed Ma	-			uck (A9) (LRR I, J)
	pipedon (A	(2)				Redox (S5				rairie Redox (A16) ( <b>LRR F, G, H</b> )
	listic (A3)	,				d Matrix (S			_	irface (S7) (LRR G)
	en Sulfide (					Mucky Mir				ains Depressions (F16)
	d Layers (A					Gleyed Ma	, ,			R H outside of MLRA 72 & 73)
	uck (A9) (L					ed Matrix (F				d Vertic (F18)
	d Below Da ark Surface		e (A11)		_	Dark Surfa ed Dark Su		`		rent Material (TF2) allow Dark Surface (TF12)
_	Mucky Mine	` ,				Depression		,		Explain in Remarks)
	Mucky Pea		(S2) ( <b>LRR</b>	(G, H)		ains Depre		16)		f hydrophytic vegetation and
	ucky Peat					RA 72 & 7	-	-		hydrology must be present,
									unless o	disturbed or problematic.
Restrictive	Layer (if p	resent):								
Type:										
Depth (in	nches):								Hydric Soil F	Present? Yes No
Remarks: D	istinct rec	doximorp	hic conce	entratior	ns common	within the	deplete	ed matrix	. Rock refusal li	mited excavation beyond 10".
HYDROLO	)GY									
Wetland Hy		ndicators								
•				ed; checl	k all that app	ly)			Secondar	y Indicators (minimum of two required)
	Water (A1		•		Salt Crust	•				ce Soil Cracks (B6)
	ater Table	,				vertebrate	s (B13)			sely Vegetated Concave Surface (B8)
✓ Saturati		( )				Sulfide Oc				age Patterns (B10)
Water N	/larks (B1)					on Water T		)		zed Rhizospheres on Living Roots (C3)
	nt Deposits	s (B2)				Rhizosphei				ere tilled)
	posits (B3)				(where	not tilled)			Crayf	ish Burrows (C8)
_	at or Crust				_	of Reduce	d Iron (C	4)	☐ Satur	ation Visible on Aerial Imagery (C9)
Iron De	posits (B5)				Thin Muck	Surface (	C7)		✓ Geom	norphic Position (D2)
Inundat	ion Visible	on Aerial	Imagery (	B7) 🔲	Other (Ex	plain in Re	marks)		✓ FAC-	Neutral Test (D5)
☐ Water-S	Stained Lea	aves (B9)							Frost-	-Heave Hummocks (D7) (LRR F)
Field Obser	rvations:									
Surface Wat	ter Present	t? \	′es <u> </u>	. No	🔼 Depth (in	iches):				
Water Table	Present?	)	es 🔽	No	Depth (in	iches):	9	_		
Saturation P (includes ca			′es <b>√</b>	No	Depth (in	iches):	4	We	tland Hydrology	Present? Yes No
			n gauge, n	nonitoring	g well, aerial	photos, pre	evious ins	spections	), if available:	
				gy includ	des high wa	ter table,	saturatio	on within	4" of the soil su	ırface, geomorphic position, and
	positive F									

Project/Site: Kindsfater	City/County: Yellowstone Sampling Date: 6/21/2022
	State: Montana Sampling Point: DP09u
	Section, Township, Range: 6 2S 25E
• ( /	Local relief (concave, convex, none): flat Slope (%):5
	45.696823 Long: -108.692058 Datum: NAD 83
Soil Map Unit Name: Bm: Bew silty clay loam, 0 to 1 percent slop	
Are climatic / hydrologic conditions on the site typical for this time of ye	
	disturbed? Are "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology significantly  Are Vegetation, Soil, or Hydrology naturally pro-	
	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present?  Hydric Soil Present?  Wetland Hydrology Present?  Remarks: Upland data point located along N edge of cell 14.	Is the Sampled Area within a Wetland? Yes No
VEGETATION - Use scientific names of plants	
Tree Stratum Plot size (30 Foot Radius) Absolute Domiant Species	
// OUVII. Species	Number of Dominant Species that are OBL, FACW or FAC:
	Total Number of Dominant Species Across All Strata:  1 (B)
Sapling/Shrub Stratum Plot size (15 Foot Radius)	Percent of Dominant Species That Are OBL, FACW, or FAC:  0.0 % (A/B)
output grant of the control of the c	Prevalence Index worksheet
	Total % Cover of: Multiply by:
	OBL species 0 X 1 0  FACW species 0 X 2 0
	FAC species 0 X2 0
Herbaceous Stratum Plot size ( 5 Foot Radius)	FACU species 1 X 4 4
Bromus tectorum 80	UPL species 95 X 5 475
Convolvulus arvensis 5	UPL Column Totals 96 (A) 479 (B)
Nassella viridula 10	UPL Prevalence Index = B/A = 4.99
Sisymbrium altissimum 1	FACU Hydrophytic Vegetation Indicators
	1 - Rapid Test for Hydrophytic Vegetation
	2 - Dominance Test is >50%
	☐ 3 - Prevalence Index is <= 3.0
	4 - Morphological Adaptations (Provide
	supporting data in remarks or on separate sheet.
	☐ 5 - Wetland Non-Vascular Plants
	Problematic Hydrophytic Vegetation (Explain)
Woody Vine Stratum Plot size ( 30 Foot Radius)	Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5.
Percent Bare Ground 4	Hydrophytic Vegetation Yes □ NO ✓
Remarks:	1
Data point is dominated by upland vegetation.	

Sampling Point: DP09u Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features % Loc2 Color (moist) Color (moist) Texture (inches) Remarks 0-06 4/3 100 **10YR** Clay Loam 2.5Y 100 06-13 4/2 Loamy Sand 13+ Cobble bottom Rock refusal <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils<sup>3</sup>: Histosol (A1) 1 cm Muck (A9) (**LRR I, J**) Sandy Gleyed Matrix (S4) Histic Epipedon (A2) Sandy Redox (S5) Coast Prairie Redox (A16) (LRR F, G, H) Stripped Matrix (S6) Black Histic (A3) Dark Surface (S7) (LRR G) Loamy Mucky Mineral (F1) High Plains Depressions (F16) Hydrogen Sulfide (A4) (LRR H outside of MLRA 72 & 73) Stratified Layers (A5) (LRR F) Loamy Gleyed Matrix (F2) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) Reduced Vertic (F18) Redox Dark Surface (F6) Red Parent Material (TF2) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Thick Dark Surface (A12) Other (Explain in Remarks) Sandy Mucky Mineral (S1) Redox Depressions (F8) High Plains Depressions (F16) <sup>3</sup>Indicators of hydrophytic vegetation and 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) 5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H) wetland hydrology must be present. unless disturbed or problematic. Restrictive Layer (if present): Type: Rock Depth (inches): 13 **Hydric Soil Present?** Remarks: No hydric soil indicators observed. Cobbles and rock refusal limited excavation beyond 13". **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Salt Crust (B11) Surface Soil Cracks (B6) High Water Table (A2) Aquatic Invertebrates (B13) Sparsely Vegetated Concave Surface (B8) Saturation (A3) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) Water Marks (B1) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Drift Deposits (B3) (where not tilled) Crayfish Burrows (C8) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Thin Muck Surface (C7) Geomorphic Position (D2) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Frost-Heave Hummocks (D7) (LRR F) Field Observations: Yes No Depth (inches): Surface Water Present? Yes \_\_\_\_ No \_\_\_ Depth (inches): Water Table Present? Wetland Hydrology Present? Yes \_\_\_\_ No \_\_\_ Saturation Present? Yes \_\_\_\_ No \_\_\_ Depth (inches): \_ (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: No evidence of wetland hydrology observed.

SOIL

Project/Site: Kindsfater	City/County:	Yellowstone Sampling Date: 6/21/2022
Applicant/Owner: MDT		State: Montana Sampling Point: DP09w
• •	Section, Tow	
		concave, convex, none): <u>concave</u> Slope (%):
		5.696967 Long:
Soil Map Unit Name: Bm: Bew silty clay loam, 0 to 1 per	: 1 2 V. V	NVVI classification: 1101 mapped
		Are "Normal Circumstances" present? Yes No
re Vegetation, Soil, or Hydrology na	turally problematic?	(If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map s	howing sampling	point locations, transects, important features, etc
Hydrophytic Vegetation Present? Yes ✓ No Hydric Soil Present? Yes ✓ No Wetland Hydrology Present? Yes ✓ No Wetland Hydrology Present?		Sampled Area a Wetland? Yes <u>V</u> No
Remarks: Wetland data point located within cell 14.		
VEGETATION - Use scientific names of plan		
<u>Tree Stratum</u> Plot size (30 Foot Radius) Absolute % Cover:	Domiant Indicator Species? Status	Dominance Test worksheet
		Number of Dominant Species that are OBL, FACW or FAC:  2 (A)
		Total Number of Dominant Species Across All Strata:  3 (B)
Sapling/Shrub Stratum Plot size (15 Foot Radius)		Percent of Dominant Species That Are OBL, FACW, or FAC:  66.7 % (A/B)
Populus deltoides 5	FAC	Prevalence Index worksheet
Salix exigua 60	<b>✓</b> FACW	Total % Cover of: Multiply by:  OBL species 0 X 1 0
		FACW species 60 X 2 120
		FAC species 8 X 3 24
Herbaceous Stratum Plot size ( 5 Foot Radius)		FACU species 10 X 4 40
Asclepias viridiflora 2	☐ UPL	UPL species 2 X 5 10
Cirsium arvense 10	<b>✓</b> FACU	Column Totals 80 (A) 194 (B)
Lactuca serriola 3	<b>✓</b> FAC	Prevalence Index = B/A = 2.43
		Hydrophytic Vegetation Indicators
		1 - Rapid Test for Hydrophytic Vegetation
		✓ 2 - Dominance Test is >50%
		✓ 3 - Prevalence Index is <= 3.0
		4 - Morphological Adaptations (Provide
		supporting data in remarks or on separate sheet.
		5 - Wetland Non-Vascular Plants
		Problematic Hydrophytic Vegetation (Explain)
Woody Vine Stratum Plot size ( 30 Foot Radius)		Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5.
Percent Bare Ground 40		Hydrophytic Vegetation Yes ✓ NO □
Remarks:		1
Evidence of hydrophytic vegetation includes a positiv	e dominance test and	a prevalence index less than or equal to 3.0.

Irofila Dacaria							,		
		e to the de	oth neede				or confi	rm the absence	e of indicators.)
Depth	Matrix		Color		x Feature:		Loc <sup>2</sup>	_ Texture	Pomorko
(inches)	Color (moist)			(moist)		_Type			Remarks
)-16 2	2.5Y 4/2	98	7.5YR	5/4	2	С	M	Clay Loam	l .
								_	
							-	_	_
						-			
			-			-	-	_	
Type: C=Conc	entration, D=D	— ——— epletion. RM	=Reduced	Matrix. CS	=Covered	d or Coat	ed Sand (	Grains. <sup>2</sup> Lo	ocation: PL=Pore Lining, M=Matrix.
	licators: (Appl								s for Problematic Hydric Soils <sup>3</sup> :
Histosol (A	1)			☐ Sandy G	Sleyed Ma	ıtrix (S4)		☐ 1 cm	Muck (A9) ( <b>LRR I, J</b> )
Histic Epipe	•		<u> </u>		Redox (S5				t Prairie Redox (A16) ( <b>LRR F, G, H</b> )
Black Histic	(A3)		]	Stripped	l Matrix (S	66)		Dark	Surface (S7) ( <b>LRR G</b> )
Hydrogen S			_	= .	Mucky Mir		)		Plains Depressions (F16)
	ayers (A5) ( <b>LRF</b>		1		Gleyed Ma				RR H outside of MLRA 72 & 73)
	(A9) (LRR F, G		<u> </u>	_	d Matrix (I			_	ced Vertic (F18)
_	elow Dark Surfa Surface (A12)	ace (ATT)		_	Dark Surfa d Dark Su		7)		Parent Material (TF2) Shallow Dark Surface (TF12)
_	ky Mineral (S1)		1	= :	u Daik Su Depressio		,		(Explain in Remarks)
_	cky Peat or Pea		G. H)		ains Depre		F16)		s of hydrophytic vegetation and
	y Peat or Peat (		_		RA 72 & 7		-		nd hydrology must be present,
		. , (		,			,		s disturbed or problematic.
									o dictarged or propioniatio.
Restrictive Lay	er (if present)								o distanson on prosionnatio.
Restrictive Lay	er (if present)	!							
Type: Depth (inche	es):								I Present? Yes V No
Туре:	es):			hin the de	pleted m	atrix.			
Type: Depth (inche	es):			hin the de	pleted m	atrix.			
Type: Depth (inche Remarks: Pron	es):ninent redoxir			hin the de	pleted m	atrix.			
Type: Depth (inche Remarks: Pron	es):ninent redoxir	norphic cor		hin the de	pleted m	atrix.			
Type: Depth (inche Remarks: Pron  YDROLOGY	es):ninent redoxir	norphic cor	nmon wit			atrix.		Hydric Soi	
Type:	es):ninent redoxir	norphic cor	nmon wit		· ·	atrix.		Hydric Soi	Il Present? Yes V No V
Type: Depth (inche Remarks: Pron	ninent redoxir  I logy Indicator  ors (minimum orater (A1)	norphic cor	nmon wit	all that apply Salt Crust	y) (B11)			Hydric Soi	Il Present? Yes V No V N
Type:  Depth (inche Remarks: Pron  YDROLOGY  Vetland Hydro  Primary Indicate  Surface Wa	es):ninent redoxir	norphic cor	nmon wit	all that apply	y) (B11) vertebrate	s (B13)		Hydric Soi	Il Present? Yes V No V
Type: Depth (inche Remarks: Pron YDROLOGY Vetland Hydro Primary Indicato Surface Wa High Water	rinent redoxir  relogy Indicator ors (minimum or ater (A1) Table (A2) (A3)	norphic cor	nmon wit	ıll that apply Salt Crust Aquatic Inv	y) (B11) vertebrate Sulfide Oo	s (B13) dor (C1)	)	Hydric Soi	lary Indicators (minimum of two require
Type:	rinent redoxir  relogy Indicator ors (minimum or ater (A1) Table (A2) (A3)	norphic cor	nmon wit	all that apply Salt Crust Aquatic Inv Hydrogen S	y) (B11) vertebrate Sulfide Od	s (B13) dor (C1) able (C2		Hydric Soi	lary Indicators (minimum of two require face Soil Cracks (B6) arsely Vegetated Concave Surface (B8 ainage Patterns (B10)
Type:	prince of the control	norphic cor	nmon wit	all that apply Salt Crust Aquatic Inv Hydrogen 3 Dry-Seaso Oxidized R	y) (B11) vertebrate Sulfide Od	s (B13) dor (C1) able (C2		Second Sun Spa Dra Oxis (C3)	lary Indicators (minimum of two require face Soil Cracks (B6) arsely Vegetated Concave Surface (B8 sinage Patterns (B10) idized Rhizospheres on Living Roots (Carticle Process)
Type:	ninent redoxir  logy Indicator ors (minimum orater (A1) Table (A2) (A3) (A3) (A3) (A5) (B1) (A9) (A9) (A9) (A9) (A9) (A9) (A9) (A9	norphic cor	nmon wit	all that apply Salt Crust Aquatic Inv Hydrogen 3 Dry-Seaso Oxidized R	y) (B11) vertebrate Sulfide Oo n Water T Rhizosphe <b>not tilled</b> )	s (B13) dor (C1) able (C2 res on Li	ving Roots	Second Sun Spa Dra Oxi s (C3) Cra	lary Indicators (minimum of two require face Soil Cracks (B6) arsely Vegetated Concave Surface (B8 ainage Patterns (B10) idized Rhizospheres on Living Roots (Where tilled)
Type: Depth (inche Remarks: Pron  YDROLOGY  Vetland Hydro  Ymary Indicate Surface Wa High Water Saturation ( Water Mark Sediment D Drift Deposi	rinent redoxir  relogy Indicator  ors (minimum or  ater (A1)  Table (A2)  (A3)  (A3)  (A3)  (A5)  (A5)  (A5)  (A5)  (A5)  (A5)  (A7)  (A7)  (A8)  (A8)  (A8)  (A8)  (A9)	norphic cor	nmon wit	all that apply Salt Crust Aquatic Inv Hydrogen S Dry-Seaso Oxidized R (where r	y) (B11) vertebrate Sulfide Od n Water T Rhizosphe not tilled) of Reduce	s (B13) dor (C1) able (C2 res on Li	ving Roots	Second Sum Spa Dra Oxi s (C3) Sam Sam	lary Indicators (minimum of two require rface Soil Cracks (B6) arsely Vegetated Concave Surface (B8 ainage Patterns (B10) idized Rhizospheres on Living Roots (Where tilled) ayfish Burrows (C8)
Type:	rinent redoxir  relogy Indicator  ors (minimum or  ater (A1)  Table (A2)  (A3)  (A3)  (A3)  (A5)  (A5)  (A5)  (A5)  (A5)  (A5)  (A7)  (A7)  (A8)  (A8)  (A8)  (A8)  (A9)	norphic cor	d; check a	sall that apply Salt Crust Aquatic Inv Hydrogen S Dry-Seaso Oxidized R (where r Presence o	y) (B11) vertebrate Sulfide Od n Water T Rhizosphe not tilled) of Reduce Surface (	s (B13) dor (C1) Table (C2 res on Lind d Iron (C	ving Roots	Second Sum Spa Dra Oxi s (C3) Cra Sat	lary Indicators (minimum of two require face Soil Cracks (B6) arsely Vegetated Concave Surface (B8 ainage Patterns (B10) idized Rhizospheres on Living Roots (Where tilled) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9)
Type:	rinent redoxir  relogy Indicator  ors (minimum or  ater (A1)  Table (A2)  (A3)  as (B1)  Deposits (B2)  its (B3)  r Crust (B4)  its (B5)	norphic cor s: fone require	d; check a	salt Crust Aquatic Inv Hydrogen S Dry-Seaso Oxidized R ( <b>where r</b> Presence of Thin Muck	y) (B11) vertebrate Sulfide Od n Water T Rhizosphe not tilled) of Reduce Surface (	s (B13) dor (C1) Table (C2 res on Lind d Iron (C	ving Roots	Second Sum Spa Spa Sox S (C3) Cra Sat Ge FA	lary Indicators (minimum of two require face Soil Cracks (B6) arsely Vegetated Concave Surface (B8 ainage Patterns (B10) idized Rhizospheres on Living Roots (Where tilled) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) omorphic Position (D2)
Type: Depth (inche Remarks: Pron  YDROLOGY  Vetland Hydro  Primary Indicate Surface Wa High Water Saturation ( Water Mark Sediment D Drift Deposi Algal Mat or Iron Deposi Inundation V	rinent redoxing redox	norphic cor s: fone require	d; check a	salt Crust Aquatic Inv Hydrogen S Dry-Seaso Oxidized R ( <b>where r</b> Presence of Thin Muck	y) (B11) vertebrate Sulfide Od n Water T Rhizosphe not tilled) of Reduce Surface (	s (B13) dor (C1) Table (C2 res on Lind d Iron (C	ving Roots	Second Sum Spa Spa Sox S (C3) Cra Sat Ge FA	lary Indicators (minimum of two require face Soil Cracks (B6) arsely Vegetated Concave Surface (B8 inage Patterns (B10) idized Rhizospheres on Living Roots (Where tilled) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) omorphic Position (D2) C-Neutral Test (D5)
Type: Depth (inche Remarks: Pron  YDROLOGY  Vetland Hydro Primary Indicate Surface Wa High Water Saturation ( Water Mark Sediment D Drift Deposi Algal Mat or Iron Deposi Inundation Water-Stain	ninent redoxing indicator or (minimum or other (A1) in Table (A2) (A3) is (B1) its (B3) in Crust (B4) its (B5) its (B5) Visible on Aerianed Leaves (B9) ions:	norphic cor s: fone require	d; check a	salt Crust Aquatic Inv Hydrogen S Dry-Seaso Oxidized R ( <b>where r</b> Presence of Thin Muck	y) (B11) vertebrate Sulfide Od n Water T Rhizosphe not tilled) of Reduce Surface ( plain in Re	s (B13) dor (C1) Table (C2 res on Lind d Iron (C	ving Roots	Second Sum Spa Spa Sox S (C3) Cra Sat Ge FA	lary Indicators (minimum of two require face Soil Cracks (B6) arsely Vegetated Concave Surface (B8 inage Patterns (B10) idized Rhizospheres on Living Roots (Where tilled) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) omorphic Position (D2) C-Neutral Test (D5)
Type: Depth (inche Remarks: Pron  YDROLOGY  Vetland Hydro Primary Indicate Surface Wa High Water Saturation ( Water Mark Sediment D Drift Deposi Algal Mat on Iron Deposi Inundation ( Water-Stain Field Observation	rinent redoxing responses in the redoxing response redoxing response response redoxing response response redoxing response redoxing response response redoxing response response redoxing response redoxing response redoxing response redoxing response redoxing response redoxing redoxing response redoxing redoxing response redoxing redoxing response redoxing redoxi	norphic cor s: f one require Il Imagery (E	d; check a	all that apply Salt Crust Aquatic Inv Hydrogen S Dry-Seaso Oxidized R (where r Presence of Thin Muck Other (Exp	y) (B11) vertebrate Sulfide Od n Water T Rhizosphe not tilled) of Reduce Surface ( plain in Re	s (B13) dor (C1) Table (C2 res on Lind d Iron (C	ving Roots	Second Sun Spa Oxi s (C3) Cra Sat FA Fro	lary Indicators (minimum of two require rface Soil Cracks (B6) arsely Vegetated Concave Surface (B8 ainage Patterns (B10) idized Rhizospheres on Living Roots (Where tilled) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) omorphic Position (D2) C-Neutral Test (D5) ist-Heave Hummocks (D7) (LRR F)
Type: Depth (inche Remarks: Pron  YDROLOGY  Wetland Hydro Primary Indicate Surface Wa High Water Saturation ( Water Mark Sediment D Drift Deposi Algal Mat or Iron Deposi Inundation V Water-Stain  Field Observati Surface Water F Water Table Presentation Presentation Presentation  Water-Table Presentation	ninent redoxing process.  plogy Indicator ors (minimum orseter (A1) or Table (A2) (A3) or Crust (B4) or Crust (B4) or Crust (B4) or Crust (B5)	norphic cor s: f one require  I Imagery (E)	d; check a	salt Crust Aquatic Inv Hydrogen S Dry-Seaso Oxidized R (where r Presence of Thin Muck Other (Exp	y) (B11) vertebrate Sulfide Od n Water T thizosphe not tilled) of Reduce Surface ( plain in Re	s (B13) dor (C1) Table (C2 res on Lind d Iron (C	ving Roots	Second Sun Spa Oxi s (C3) Cra Sat FA Fro	lary Indicators (minimum of two require face Soil Cracks (B6) arsely Vegetated Concave Surface (B8 inage Patterns (B10) idized Rhizospheres on Living Roots (Where tilled) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) omorphic Position (D2) C-Neutral Test (D5)
Type: Depth (inche Remarks: Pron  YDROLOGY  Vetland Hydro Rimary Indicate Surface Wa High Water Saturation ( Water Mark Sediment D Drift Deposi Algal Mat on Iron Deposi Inundation V Water-Stain Surface Water F Vater Table Presencludes capilla	ninent redoxing process.  plogy Indicator ors (minimum orseter (A1) or Table (A2) (A3) or Crust (B4) or Crust (B4) or Crust (B4) or Crust (B5)	norphic cor  s: f one require  yes yes Yes Yes	d; check a	salt that apply Salt Crust Aquatic Inv Hydrogen S Dry-Seaso Oxidized R (where r Presence of Thin Muck Other (Exp	y) (B11) vertebrate Sulfide Od n Water T Rhizosphe not tilled) of Reduce Surface ( plain in Re ches): ches):	s (B13) dor (C1) Table (C2 res on Lir d Iron (C C7) marks)	ving Roots 4) We	Second Sum Spa Oxi S (C3) FA FA Ge FA Ge Fro	lary Indicators (minimum of two require rface Soil Cracks (B6) arsely Vegetated Concave Surface (B8 ainage Patterns (B10) idized Rhizospheres on Living Roots (Where tilled) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) omorphic Position (D2) C-Neutral Test (D5) ist-Heave Hummocks (D7) (LRR F)
Type: Depth (inche Remarks: Pron  YDROLOGY  Vetland Hydro Rimary Indicate Surface Wa High Water Saturation ( Water Mark Sediment D Drift Deposi Algal Mat on Iron Deposi Inundation V Water-Stain Surface Water F Vater Table Presencludes capilla	rinent redoxing in inent redox	norphic cor  s: f one require  yes yes Yes Yes	d; check a	salt that apply Salt Crust Aquatic Inv Hydrogen S Dry-Seaso Oxidized R (where r Presence of Thin Muck Other (Exp	y) (B11) vertebrate Sulfide Od n Water T Rhizosphe not tilled) of Reduce Surface ( plain in Re ches): ches):	s (B13) dor (C1) Table (C2 res on Lir d Iron (C C7) marks)	ving Roots 4) We	Second Sum Spa Oxi S (C3) FA FA Ge FA Ge Fro	lary Indicators (minimum of two require rface Soil Cracks (B6) arsely Vegetated Concave Surface (B8 ainage Patterns (B10) idized Rhizospheres on Living Roots (Where tilled) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) omorphic Position (D2) C-Neutral Test (D5) ist-Heave Hummocks (D7) (LRR F)

Applicant/Owner: MDT   Section, Township, Range   6 2S   25E   Investigator(s)   Sweyant   Section, Township, Range   6 2S   25E   Investigator(s)   Sweyant   Section, Township, Range   6 2S   25E   Inclined mitilispe, Interface   Local relater (concave, convex, none), flat   Supper (sk)   5   Subregion (LRR): LRRF   Laring gravelly loam, 15 to 35 percent slopes   NVI disselfication, Not mapped   And Climatic Typicologic conditions on the site byteal for this time of year? Yes   No   (If no. expansion in Remarks.)  Are Vegetation   Soil   or Hydrology   aignificantly disturbed?   Are "Normal Circumstances" present? Ves   No   Are Vegetation   Soil   or Hydrology   naturally problematic?   (If needed, explain any answers in Remarks.)  SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present?   Yes   No     Is the Sampled Area within a Wetland?   Yes   No     No     Wetland Hydrology Present?   Yes   No     No     No     Yes   No     No     Wetland Hydrology Present?   Yes   No     No     No     Yes   No     No     Yes   No     Yes   No     Yes   No     Yes   No     Yes   No     Yes   Yes   No   Yes   Yes   No   Yes   Yes   No   Yes   Yes   No   Yes	Project/Site: Kindsfater	City/County: Ye	ellowstone	Sampling [	Date: 6/21/2022
Section, Township, Range: 6 ZS Z5E   Landform (fillstops, terrace, etc.)   Terrace   Local relief (concave, convex, none): flat   Slope (%): 5   Slope (%)					
Landform (hillslope, lerrace, etc.): Terrace					
Solf Map Unit Name: LL carring gravelly loams, 15 to 35 percent slopes  NMM classification, Not mapped  NM classification, Not mapped  NMM classification, Not mapped  NM classification  NM classi	• (,				
Soil Map Unit Name: Lit Larim gravelly loam; 15 to 35 percent slopes					
Are climatic / hydrologic conditions on the site typical for this time of year? Yes	Soil Man Unit Name: LI: Larim gravelly loam, 15 to 35 percent sk	ones	<u> </u>	NAM classification: Not n	napped
Are Vegetation	Are elimental hudrelesis conditions on the site twicel for this time of w	- 3=2 Vaa 🗸	No (If no	NVVI Classification.	паррод
Are Vegetation					. V Na 🗆
SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present?					
Hydrophytic Vegetation Present? Yes No Welland Hydrology Melland data point located near E boundary of the site.    VEGETATION - Use scientific names of plants					
Hydric Soil Present? Yes  No  Within a Wetland? Yes  No  Within a Wetland Plants			Offic locations,	Transects, importa-	
VEGETATION - Use scientific names of plants	Hydrophytic Vegetation Present?  Yes   No   No   No   No   No   No   No   N	Is the Sa			
VEGETATION - Use scientific names of plants	Wetland Hydrology Present?  Yes No V	within a	Wetland?	Yes No _	<u> </u>
Tree Stratum   Plot size (30   Foot Radius)   Absolute   Moody Vine Stratum   Plot size (30   Foot Radius)   Moody Vine	Remarks: Upland data point located near E boundary of the sit	te.			
Tree Stratum   Plot size (30   Foot Radius)   Absolute   Moody Vine Stratum   Plot size (30   Foot Radius)   Moody Vine					
Tree Stratum Plot size (30 Foot Radius)					
Tree Stratum   Plot size (30   Foot Radius) % Cover: Species? Status   Number of Dominant Species that are OBL, FACW or FAC:					
Sapling/Shrub Stratum   Plot size (15 Foot Radius)   Prevalence Index worksheet   Total % Cover of   Multiply by:   OFACU	Total Otrostoria District (OO Free Destina)		Dominan	ce Test worksheet	
Sapling/Shrub Stratum  Plot size (15 Foot Radius)  Herbaceous Stratum  Plot size (5 Foot Radius)  Bromus inermis  Elymus repens  60		)! Guice			0 (A)
Plot size (15 Foot Radius)   Plot size (15 Foot Radius)   Plot size (15 Foot Radius)   Prevalence Index worksheet   Total % Cover of:					2 (B)
Herbaceous Stratum Plot size ( 5 Foot Radius)  Bromus inermis 30 ▼ UPL Elymus repens 60 ▼ FACU Poa compressa 10	Sapling/Shrub Stratum Plot size (15 Foot Radius)				0.0 % (A/B)
Herbaceous Stratum Plot size ( 5 Foot Radius)  Bromus inermis 30 ☑ UPL Elymus repens 60 ☑ FACU Poa compressa 10 ☐ FACU  Prevalence Index = B/A = 4.30  Hydrophytic Vegetation Indicators □ 1 - Rapid Test for Hydrophytic Vegetation □ 2 - Dominance Test is >50% □ 3 - Prevalence Index is <= 3.0 □ 4 - Morphological Adaptations (Provide supporting data in remarks or on separate sheet. □ 5 - Wetland Non-Vascular Plants □ Problematic Hydrophytic Vegetation (Explain) Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5.  Hydrophytic Vegetation □ Problematic Ground 0  Remarks:	,				
Herbaceous Stratum  Plot size ( 5 Foot Radius)  Bromus inermis					
Herbaceous Stratum  Plot size ( 5 Foot Radius)  Bromus inermis					
Herbaceous Stratum Plot size ( 5 Foot Radius)  Bromus inermis 30 ✓ UPL Elymus repens 60 ✓ FACU Poa compressa 10 FACU  Hydrophytic Vegetation Indicators 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index = B/A = 4.30  Hydrophytic Vegetation Indicators 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is <= 3.0 4 - Morphological Adaptations (Provide supporting data in remarks or on separate sheet. 5 - Wetland Non-Vascular Plants Problematic Hydrophytic Vegetation (Explain) Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5.  Hydrophytic Vegetation Present?  Percent Bare Ground 0			FAC spec		
Bromus inermis 30 V UPL  Elymus repens 60 V FACU  Poa compressa 10 FACU  Hydrophytic Vegetation Indicators  1 - Rapid Test for Hydrophytic Vegetation  2 - Dominance Test is >50%  3 - Prevalence Index is <= 3.0  4 - Morphological Adaptations (Provide supporting data in remarks or on separate sheet.  5 - Wetland Non-Vascular Plants  Problematic Hydrophytic Vegetation (Explain)  Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5.  Hydrophytic Vegetation  Percent Bare Ground 0  Remarks:	Horbacoous Stratum Plot size ( 5 Foot Radius)		FACU spe	ecies 70 X 4	280
Elymus repens 60  FACU  Poa compressa 10  FACU  Hydrophytic Vegetation Indicators		UPL	UPL spec	ies 30 X 5	150
Prevalence Index = B/A = 4.30    Hydrophytic Vegetation Indicators   1 - Rapid Test for Hydrophytic Vegetation   2 - Dominance Test is >50%   3 - Prevalence Index is <= 3.0   4 - Morphological Adaptations (Provide supporting data in remarks or on separate sheet.   5 - Wetland Non-Vascular Plants   Problematic Hydrophytic Vegetation (Explain)			Column T	otals 100 (A)	430 (B)
Hydrophytic Vegetation Indicators   1 - Rapid Test for Hydrophytic Vegetation   2 - Dominance Test is >50%   3 - Prevalence Index is <= 3.0   4 - Morphological Adaptations (Provide supporting data in remarks or on separate sheet.   5 - Wetland Non-Vascular Plants   Problematic Hydrophytic Vegetation (Explain)			Preva	alence Index = B/A =	4.30
1 - Rapid Test for Hydrophytic Vegetation   2 - Dominance Test is >50%   3 - Prevalence Index is <= 3.0   4 - Morphological Adaptations (Provide supporting data in remarks or on separate sheet.   5 - Wetland Non-Vascular Plants   Problematic Hydrophytic Vegetation (Explain)   Problematic Hydrophytic Vegetation (Explain)   Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5.   Hydrophytic Vegetation   Yes   NO   Present?   NO   Present?					
3 - Prevalence Index is <= 3.0     4 - Morphological Adaptations (Provide supporting data in remarks or on separate sheet.     5 - Wetland Non-Vascular Plants     Problematic Hydrophytic Vegetation (Explain)     Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5.     Hydrophytic Vegetation     Present?   No				_	
## A - Morphological Adaptations (Provide supporting data in remarks or on separate sheet.  ## S - Wetland Non-Vascular Plants  ## Problematic Hydrophytic Vegetation (Explain)  ## Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5.  ## Hydrophytic Vegetation Present?  ## NO ▼  ## Remarks:			☐ 2·	- Dominance Test is >50	%
Woody Vine Stratum  Plot size ( 30 Foot Radius)  Woody Vine Stratum  Problematic Hydrophytic Vegetation (Explain)  Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5.  Hydrophytic Vegetation Present?  Present?  A - Morphological Adaptations (Provide supporting data in remarks or on separate sheet.  Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5.  Hydrophytic Vegetation Present?  NO  ✓  Remarks:					
supporting data in remarks or on separate sheet.  5 - Wetland Non-Vascular Plants  Problematic Hydrophytic Vegetation (Explain)  Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5.  Hydrophytic Vegetation Present?  Yes NO  Remarks:					
Woody Vine Stratum Plot size ( 30 Foot Radius)  Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5.  Hydrophytic Vegetation Present?  Yes □ NO ✓  Remarks:			su	ipporting data in remarks	
Woody Vine Stratum Plot size ( 30 Foot Radius) Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5.  Hydrophytic Vegetation Present?  Remarks:  Percent Bare Ground 0			<u> </u>	· Wetland Non-Vascular I	Plants
Woody Vine Stratum Plot size ( 30 Foot Radius) Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5.  Hydrophytic Vegetation Present?  Remarks:  Percent Bare Ground 0			Pr	oblematic Hydrophytic V	egetation (Explain)
Percent Bare Ground 0  Remarks:  Hydrophytic Vegetation Present?  Yes NO	Woody Vine Stratum Plot size ( 30 Foot Radius)		Indicators o	of hydric sil and wetland h	nydrology must be
Remarks:	Percent Rare Ground ()		Hydrophy	ytic Vegetation	
Data point is dominated by upland vegetation.					
	Data point is dominated by upland vegetation.				

SOIL Sampling Point: DP10u Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Loc<sup>2</sup> Color (moist) Color (moist) Type Texture (inches) Remarks 0-10 10YR 3/2 100 Sandy Clay Loam Cobbly 10+ Cobble bottom Rock refusal <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils<sup>3</sup>: Histosol (A1) 1 cm Muck (A9) (**LRR I, J**) Sandy Gleyed Matrix (S4) Coast Prairie Redox (A16) (LRR F, G, H) Histic Epipedon (A2) Sandy Redox (S5) Stripped Matrix (S6) Black Histic (A3) Dark Surface (S7) (LRR G) Loamy Mucky Mineral (F1) High Plains Depressions (F16) Hydrogen Sulfide (A4) (LRR H outside of MLRA 72 & 73) Stratified Layers (A5) (LRR F) Loamy Gleyed Matrix (F2) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) Reduced Vertic (F18) Redox Dark Surface (F6) Red Parent Material (TF2) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Thick Dark Surface (A12) Other (Explain in Remarks) Sandy Mucky Mineral (S1) Redox Depressions (F8) High Plains Depressions (F16) <sup>3</sup>Indicators of hydrophytic vegetation and 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) 5 cm Mucky Peat or Peat (S3) (LRR F) wetland hydrology must be present. (MLRA 72 & 73 of LRR H) unless disturbed or problematic. Restrictive Layer (if present): Type: **Hydric Soil Present?** Depth (inches): Remarks: No hydric soil indicators observed. Cobbles and rock refusal limited excavation beyond 10". **HYDROLOGY** Wetland Hydrology Indicators: Secondary Indicators (minimum of two required) Primary Indicators (minimum of one required; check all that apply) 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) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) Water Marks (B1) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Drift Deposits (B3) (where not tilled) Crayfish Burrows (C8) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Thin Muck Surface (C7) Geomorphic Position (D2) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Frost-Heave Hummocks (D7) (LRR F) Field Observations: Yes No Depth (inches): Surface Water Present? Yes \_\_\_\_ No \_**\_\_** Depth (inches): \_ Water Table Present? Wetland Hydrology Present? Yes \_\_\_\_ No \_\_\_ Saturation Present? Yes \_\_\_\_ No \_\_\_ Depth (inches): \_\_\_ (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: No evidence of wetland hydrology observed. Soils dry.

Project/Site: Kindsfater	City/County	Yellowstone Sampling Date: 6/21/2022
Applicant/Owner: MDT		State: Montana Sampling Point: DP10w
Investigator(s): S Weyant		
		(concave, convex, none): flat Slope (%): 3
		45.694839 Long: -108.690007 Datum: NAD 83
Soil Map Unit Name: Ll: Larim gravelly loam, 15 to 35 perce	ent slopes	NWI classification: Not mapped
Are climatic / hydrologic conditions on the site typical for this time	e of year? Yes	No. (If no, evaluin in Remarks.)
		Are "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology signification, Soil, or Hydrology natura		
		g point locations, transects, important features, etc
Hydrophytic Vegetation Present? Yes No	Is th	e Sampled Area
Hydric Soil Present? Yes   Wetland Hydrology Present? Yes   No   No   No   No   No   No   No   N	with	in a Wetland? Yes No
Remarks: Wetland data point located within small wetland		any of the cite
Welland data point located within small welland	I along E bound	ary or the site.
VEGETATION - Use scientific names of plants		
Tree Streeture Plot size (20 Feet Pedius) Absolute Do	omiant Indicato	Dominance Test worksheet
	FACU	Number of Dominant Species that are OBL, FACW or FAC:  (A)
		Total Number of Dominant Species Across All Strata:  2 (B)
Sapling/Shrub Stratum Plot size (15 Foot Radius)		Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 % (A/B)
Sapining/Sin up Stratum 1 lot Size (13 1 Sot Madius)		Prevalence Index worksheet
		Total % Cover of: Multiply by:
		OBL species 1 X1 1
		FACW species 98 X 2 196 FAC species 0 X 3 0
		FACU species 11 X 4 44
Herbaceous Stratum Plot size ( 5 Foot Radius)		UPL species 0 X 5 0
Cirsium arvense 1 [Phalaris arundinacea 98 [	☐ FACU FACW	Column Totals 110 (A) 241 (B)
Typha latifolia 1	FACW OBL	
Typha amona		Trevalence mack - B/A -
		Hydrophytic Vegetation Indicators  1 - Rapid Test for Hydrophytic Vegetation
		2 - Dominance Test is >50%
		✓ 3 - Prevalence Index is <= 3.0
		<ul> <li>4 - Morphological Adaptations (Provide supporting data in remarks or on separate sheet.</li> </ul>
		5 - Wetland Non-Vascular Plants
Woody Vine Stratum Plot size ( 30 Foot Radius)		Problematic Hydrophytic Vegetation (Explain) Indicators of hydric sil and wetland hydrology must be
		present, unless disturbed or problematic for #3, 4, 5.  Hydrophytic Vegetation
Percent Bare Ground 0		Present? Yes V NO
Remarks:		•
Evidence of hydrophytic vegetation includes a prevalence	e index less thar	n or equal to 3.0.

Sampling Point: DP10w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Loc<sup>2</sup> Color (moist) Color (moist) Texture (inches) 0-06 10YR 2/2 100 Mucky mineral Mucky mineral 4/6 06 - 16 +10GY 4/1 95 10YR С Sandy Clay Loam Cobbly <sup>2</sup>Location: PL=Pore Lining, M=Matrix. <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils<sup>3</sup>: Histosol (A1) 1 cm Muck (A9) (**LRR I, J**) Sandy Gleyed Matrix (S4) Histic Epipedon (A2) Sandy Redox (S5) Coast Prairie Redox (A16) (LRR F, G, H) Stripped Matrix (S6) Black Histic (A3) Dark Surface (S7) (LRR G) Loamy Mucky Mineral (F1) High Plains Depressions (F16) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) (LRR H outside of MLRA 72 & 73) Stratified Layers (A5) (LRR F)  $\perp$  1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) Reduced Vertic (F18) Redox Dark Surface (F6) Red Parent Material (TF2) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Thick Dark Surface (A12) Other (Explain in Remarks) Sandy Mucky Mineral (S1) Redox Depressions (F8) High Plains Depressions (F16) <sup>3</sup>Indicators of hydrophytic vegetation and 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) 5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H) wetland hydrology must be present. unless disturbed or problematic. Restrictive Layer (if present): Type: Hydric Soil Present? Yes ✓ No Depth (inches): Remarks: Mucky mineral over prominent redoximorphic concentrations within a gleyed matrix. Many roots in the upper 6". **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Salt Crust (B11) Surface Soil Cracks (B6) High Water Table (A2) Aquatic Invertebrates (B13) Sparsely Vegetated Concave Surface (B8) ✓ Saturation (A3) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Water Marks (B1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Drift Deposits (B3) (where not tilled) Crayfish Burrows (C8) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Thin Muck Surface (C7) Geomorphic Position (D2) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Frost-Heave Hummocks (D7) (LRR F) Field Observations: Yes No Depth (inches): Surface Water Present? Yes \_\_\_\_ No \_\_\_ Depth (inches): \_ Water Table Present? Wetland Hydrology Present? Yes Yes 🗸 No \_ Depth (inches): \_\_\_\_ Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Evidence of wetland hydrology includes saturation to the soil surface and a positive FAC-Neutral test.

SOIL

Project/Site: Kindsfater City/Co	ounty: Yellowstone Sampling Date: 6/21/2022
	State: Montana Sampling Point: DP11u
Investigator(s): S Weyant Section	
Landform (hillslope, terrace, etc.): Toeslope Local i	
	45.690283 Long: -108.696331 Datum: NAD 83
	NWI classification: Not mapped
Are climatic / hydrologic conditions on the site typical for this time of year? Ye	
Are Vegetation, Soil, or Hydrology significantly disturb	ed? Are "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology naturally problemat	ic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing samp	pling point locations, transects, important features, etc.
Hydric Soil Present? Yes No ✓	Is the Sampled Area within a Wetland? Yes No
Remarks: Upland data point located near SE portion of the site.	
VEGETATION - Use scientific names of plants	
Troc Stratum Plot size (20 Foot Padius)	dicator Dominance Test worksheet
, // OUVEL OPECIOS: OIL	Number of Dominant Species that are OBL, FACW or FAC:  (A)
	Total Number of Dominant Species Across All Strata:
Sapling/Shrub Stratum Plot size (15 Foot Radius)	Percent of Dominant Species That Are OBL, FACW, or FAC:  0.0 % (A/B)
,	Prevalence Index worksheet
	Total % Cover of: Multiply by:
	OBL species 0 X 1 0
	FACV species 1 X2 2 FAC species 0 X 3 0
Diet size ( F. Foot Podius)	FACU species 85 X 4 340
Herbaceous Stratum   Plot size ( 5 Foot Radius)	UPL species 4 X 5 20
Conium maculatum 1 FAC'	
Convolvulus arvensis 1 UPL	
Elymus repens 85 🔽 FAC	Frevalence index - D/A -
	1 - Rapid Test for Hydrophytic Vegetation
	2 - Dominance Test is >50%
	3 - Prevalence Index is <= 3.0
	<ul> <li>4 - Morphological Adaptations (Provide supporting data in remarks or on separate sheet.</li> </ul>
	5 - Wetland Non-Vascular Plants
	Problematic Hydrophytic Vegetation (Explain)
Woody Vine Stratum Plot size ( 30 Foot Radius)	Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5.
Percent Bare Ground 10	Hydrophytic Vegetation Present?  Yes NO
Remarks:	I
Data point is dominated by upland vegetation.	

SOIL Sampling Point: DP11u Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Color (moist) Loc<sup>2</sup> Texture Color (moist) (inches) Remarks 10YR 0-05 2/2 100 Fine roots Loam 2.5Y С 05 - 164/3 98 10YR 4/6 M Loam <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils<sup>3</sup>: Histosol (A1) 1 cm Muck (A9) (**LRR I, J**) Sandy Gleyed Matrix (S4) Histic Epipedon (A2) Sandy Redox (S5) Coast Prairie Redox (A16) (LRR F, G, H) Stripped Matrix (S6) Black Histic (A3) Dark Surface (S7) (LRR G) Loamy Mucky Mineral (F1) High Plains Depressions (F16) Hydrogen Sulfide (A4) (LRR H outside of MLRA 72 & 73) Loamy Gleyed Matrix (F2) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) Reduced Vertic (F18) Redox Dark Surface (F6) Red Parent Material (TF2) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Thick Dark Surface (A12) Other (Explain in Remarks) Sandy Mucky Mineral (S1) Redox Depressions (F8) High Plains Depressions (F16) <sup>3</sup>Indicators of hydrophytic vegetation and 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) 5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H) wetland hydrology must be present. unless disturbed or problematic. Restrictive Layer (if present): Type: **Hydric Soil Present?** Depth (inches): Remarks: Soils dry, compact. Mottles are hard, infrequent, and appear relict. No hydric soil indicators observed. **HYDROLOGY** Wetland Hydrology Indicators: Secondary Indicators (minimum of two required) Primary Indicators (minimum of one required; check all that apply) 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) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) Water Marks (B1) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Drift Deposits (B3) (where not tilled) Crayfish Burrows (C8) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Thin Muck Surface (C7) Geomorphic Position (D2) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Frost-Heave Hummocks (D7) (LRR F) Field Observations: Yes No Depth (inches): Surface Water Present? Yes \_\_\_\_ No \_\_\_ Depth (inches): Water Table Present? Wetland Hydrology Present? Yes \_\_\_\_\_ No Saturation Present? \_\_ No \_\_**✓** Depth (inches): \_ (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: No evidence of wetland hydrology observed. Soils dry.

Project/Site: Kindsfater		City/C	County: Yellowstor	ne	Sampling Da	ate: 6/21/2022
Applicant/Owner: MDT						
• • • • • • • • • • • • • • • • • • • •						25E
Landform (hillslope, terrace, etc.): Toeslope						Slone (%): 0
	Lat:					
Soil Map Unit Name: An: Alluvial land, wet			10.00010			
Are climatic / hydrologic conditions on the site						арроч
						<u> </u>
Are Vegetation, Soil, or Hydro	ology significa	intly distur	bed? Are "N	ormal Circumstance	es" present? Yes	s <u>•</u> No <u> </u>
Are Vegetation, Soil, or Hydro						
SUMMARY OF FINDINGS – Attacl		ing sam	npling point lo	cations, transe	cts, importar	ıt features, etc.
	es No 🗀		Is the Sampled A	\rea		
Hydric Soil Present?	es No			l? Yes_	✓ No □	]
Wetland Hydrology Present?						<del></del>
Remarks: Wetland data point located ald	ong large wetland c	ell at the	SE portion of the	site.		
VEGETATION - Use scientific nar	mes of plants					
Tree Stratum Plot size (30 Foot Radiu			ndicator Status	Dominance Test	worksheet	
				Number of Dominithat are OBL, FAC		0 (A)
				Total Number of D Species Across A		1 (B)
Sapling/Shrub Stratum Plot size (15	Foot Radius)			Percent of Domina That Are OBL, FA		0.0 % (A/B)
Japanigronius Statum 1.000.20 (10	1 Oot ( taalao)		Ī	Prevalence Index	k worksheet	
				Total % Cov		Multiply by:
				OBL species	0 X 1	0
				FACW species		20
				FAC species FACU species		0
<u>Herbaceous Stratum</u> Plot size ( 5	Foot Radius)			UPL species		284
Bromus inermis	3	UPI				
Conium maculatum	10	] FAC		Column Totals	85 (A)	324 (B)
Convolvulus arvensis	1 [	] UPI		Prevalence II	ndex = B/A =	3.81
Elymus repens	70			Hydrophytic Veg		
Sisymbrium altissimum	1 _	] FAC	<u> </u>	1 - Rapid	Test for Hydrophy	tic Vegetation
				2 - Domina	ance Test is >50%	6
				3 - Prevale	ence Index is <= 3	3.0
					ological Adaptatio	
				supporting sheet.	g data in remarks	or on separate
				5 - Wetlan	ıd Non-Vascular P	lants?
				✓ Problemat	ic Hydrophytic Ve	egetation (Explain)
Woody Vine Stratum Plot size ( 30	Foot Radius)			Indicators of hydric present, unless dist	sil and wetland hy	ydrology must be
Percent Bare Ground 10			ľ	Hydrophytic Veg Present?	· · · · · · · · · · · · · · · · · · ·	
Percent Bare Ground 10 Remarks:						
This site lacks hydrophytic vegetation d	lue to aggressive a	nd adapt	able nonnative gr	ass Elymus reper	ns that has inva	ded a wetland.

US Army Corps of Engineers Great Plains - Version 2.0

This data point is located at a toeslope and contains wetland hydrology and hydric soils and qualifies as a wetland.

SOIL Sampling Point: DP11w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Loc<sup>2</sup> Color (moist) Color (moist) Texture Remarks (inches) 0-07 2.5Y 3/1 100 Many fine roots Clay Loam 07-16 2.5Y 4/0 4/2 88 5  $\Box$ Clay Loam 07-16 7 С M,PL 7.5YR 4/6 Clay Loam <sup>2</sup>Location: PL=Pore Lining, M=Matrix. <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils<sup>3</sup>: Histosol (A1) 1 cm Muck (A9) (LRR I, J) Sandy Gleyed Matrix (S4) Histic Epipedon (A2) Sandy Redox (S5) Coast Prairie Redox (A16) (LRR F, G, H) Stripped Matrix (S6) Black Histic (A3) Dark Surface (S7) (LRR G) Loamy Mucky Mineral (F1) High Plains Depressions (F16) Hydrogen Sulfide (A4) (LRR H outside of MLRA 72 & 73) Stratified Layers (A5) (LRR F) Loamy Gleyed Matrix (F2) ✓ Depleted Matrix (F3) 1 cm Muck (A9) (LRR F, G, H) Reduced Vertic (F18) Redox Dark Surface (F6) Red Parent Material (TF2) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Thick Dark Surface (A12) Other (Explain in Remarks) Sandy Mucky Mineral (S1) Redox Depressions (F8) High Plains Depressions (F16) <sup>3</sup>Indicators of hydrophytic vegetation and 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) 5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H) wetland hydrology must be present. unless disturbed or problematic. Restrictive Layer (if present): Type: **Hydric Soil Present?** Depth (inches): Remarks: Prominent redoximorphic concentrations and depletions common within the matrix and along pore linings **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Salt Crust (B11) Surface Soil Cracks (B6) High Water Table (A2) Aquatic Invertebrates (B13) Sparsely Vegetated Concave Surface (B8) ✓ Saturation (A3) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) Water Marks (B1) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Drift Deposits (B3) (where not tilled) Crayfish Burrows (C8) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Thin Muck Surface (C7) ✓ Geomorphic Position (D2) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Frost-Heave Hummocks (D7) (LRR F) Field Observations: Yes No Depth (inches): Surface Water Present? Yes \_\_\_\_ No \_\_\_ Depth (inches): \_ Water Table Present? Wetland Hydrology Present? Yes \_\_\_\_ Yes 🗸 No \_\_\_ Depth (inches): \_\_\_ Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Evidence of wetland hydrology includes oxidized rhizospheres on living roots and geomorphic position.

Project/Site: Kindsfater		City/County: Yellows	stone Sampling	Date: 6/21/2022
Applicant/Owner: MDT			State: Montana Sampling	
• •				
Landform (hillslope, terrace, etc.): Hillside				
			-108.698421	
Soil Map Unit Name: Ll: Larim gravelly lo	am, 15 to 35 percent sl	opes	NWI classification: Not	mapped
Are climatic / hydrologic conditions on the s	ite typical for this time of v	ear? Yes 🔽 No	(If no, explain in Remarks.)	
Are Vegetation, Soil, or Hyd				Yes V No
Are Vegetation, Soil, or Hyd				
SUMMARY OF FINDINGS - Atta				
Hydrophytic Vegetation Present?	Yes No V Yes No V	Is the Sample within a Wetla		
VEGETATION - Use scientific no  Tree Stratum Plot size (30 Foot Rad	Absolute Domiar		Dominance Test worksheet	
	/ /0 Cover. Species		Number of Dominant Species	
Elaeagnus angustifolia	3 🗸	FACU FAC	that are OBL, FACW or FAC:	1 (A)
Populus deltoides	10 🗸	FAC_	Total Number of Dominant Species Across All Strata:	4 (B)
				(-/
On the Alberta Street and Diet size (41)	- Cast Dadius)		Percent of Dominant Species That Are OBL, FACW, or FAC:	25.0 % (A/B)
Sapling/Shrub Stratum Plot size (15) Elaeagnus angustifolia	5 Foot Radius)	FACU	Prevalence Index worksheet	
Prunus virginiana	5	FACU	Total % Cover of:	Multiply by:
Ribes aureum	1 🗍	FACU	OBL species 0 X 1 FACW species 0 X 2	0
			FACW species 0 X 2 FAC species 10 X 3	30
District Co.			FACU species 51 X 4	204
Herbaceous Stratum Plot size ( 5 Arctium minus	Foot Radius)	FACU	UPL species 88 X 5	440
Bromus inermis	75	UPL	Column Totals 149 (A	(B)
Bromus tectorum	5	UPL	Prevalence Index = B/A =	4.52
Convolvulus arvensis	8 🗆	UPL		
Galium aparine	10	FACU	Hydrophytic Vegetation Indica  1 - Rapid Test for Hydrop	
			2 - Dominance Test is >5	
			3 - Prevalence Index is <	
			4 - Morphological Adapta supporting data in remarl sheet.	
			☐ 5 - Wetland Non-Vascula	r Plants
			Problematic Hydrophytic	Vegetation (Explain)
Woody Vine Stratum Plot size ( 3	0 Foot Radius)		Indicators of hydric sil and wetland present, unless disturbed or proble	d hydrology must be
Percent Bare Ground 0			Hydrophytic Vegetation Yesent?	es NO 🗸
Remarks:				
Data point is dominated by upland ve	getation.			

Sampling Point: DP12u Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features % Color (moist) Color (moist) Loc<sup>2</sup> Texture Remarks (inches) 0-06 2/1 100 Many fine roots **10YR** Loam 100 Loam 06-12 10YR 3/1 Cobbly 12+ Cobble bottom Rock refusal <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils<sup>3</sup>: Histosol (A1) 1 cm Muck (A9) (**LRR I, J**) Sandy Gleyed Matrix (S4) Histic Epipedon (A2) Sandy Redox (S5) Coast Prairie Redox (A16) (LRR F, G, H) Stripped Matrix (S6) Black Histic (A3) Dark Surface (S7) (LRR G) Loamy Mucky Mineral (F1) High Plains Depressions (F16) Hydrogen Sulfide (A4) (LRR H outside of MLRA 72 & 73) Stratified Layers (A5) (LRR F) Loamy Gleyed Matrix (F2) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) Reduced Vertic (F18) Redox Dark Surface (F6) Red Parent Material (TF2) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Thick Dark Surface (A12) Other (Explain in Remarks) Sandy Mucky Mineral (S1) Redox Depressions (F8) High Plains Depressions (F16) <sup>3</sup>Indicators of hydrophytic vegetation and 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) 5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H) wetland hydrology must be present. unless disturbed or problematic. Restrictive Layer (if present): Type: **Hydric Soil Present?** Depth (inches): Remarks: No hydric soil indicators observed. Cobbles and rock refusal limited excavation beyond 12". **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Salt Crust (B11) Surface Soil Cracks (B6) High Water Table (A2) Aquatic Invertebrates (B13) Sparsely Vegetated Concave Surface (B8) Saturation (A3) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) Water Marks (B1) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Drift Deposits (B3) (where not tilled) Crayfish Burrows (C8) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Thin Muck Surface (C7) Geomorphic Position (D2) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Frost-Heave Hummocks (D7) (LRR F) Field Observations: Yes No Depth (inches): \_ Surface Water Present? Yes \_\_\_\_ No \_\_\_ Depth (inches): \_ Water Table Present? Wetland Hydrology Present? Yes \_\_\_\_ No \_\_\_ Saturation Present? Yes \_\_\_\_ No \_\_\_ Depth (inches): \_\_\_ (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: No evidence of wetland hydrology observed. Soils dry.

SOIL

Project/Site: Kindsfater		(	City/County: _	Yellowstone Sampling Date: 6/21/202
Applicant/Owner: MDT				State: Montana Sampling Point: DP12w
• • • • • • • • • • • • • • • • • • • •				
				(concave, convex, none): flat Slope (%): 1
				45.690438 Long: -108.698528 Datum: NAD 83
Subregion (LKK). —·····	m gravelly loam 15 to 35 no	_ Lai ercent sloi	nae	Datum Not manned
Soil Map Unit Name:	Il gravelly loam, 10 to 00 pc	HOEHE SION	)es	NWI classification: Not mapped
				No (If no, explain in Remarks.)
				Are "Normal Circumstances" present? Yes 🗹 No 🔼
Are Vegetation <u> </u>	🗹, or Hydrology nຄ	aturally pro	blematic?	(If needed, explain any answers in Remarks.)
SUMMARY OF FINDIN	GS – Attach site map s	howing	sampling	point locations, transects, important features, et
Hydrophytic Vegetation Pres	sent? Yes <u> </u> No	,	ls the	e Sampled Area
Hydric Soil Present?	Yes V No	,	within	n a Wetland? Yes No
wetland near the	e top and base of the hill.			ep has expanded across the hillside and widened the
<u>Tree Stratum</u> Plot size (;	30 Foot Radius) Absolute % Cover:	Domiant Species?		Dominance Test worksheet
Populus deltoides	5 , % COVEI.		FAC	Number of Dominant Species
Populus delitoldes		✓	FAC	that are OBL, FACW or FAC: 2 (A)
				Total Number of Dominant Species Across All Strata:  4 (B)
Sapling/Shrub Stratum	Plot size (15 Foot Radius)			Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 % (A/B)
Elaeagnus angustifolia		<b>✓</b>	FACU	Prevalence Index worksheet
Prunus virginiana	1		FACU	Total % Cover of:Multiply by:
Transacting			. ,	OBL species 40 X 1 40
				FACW species 0 X 2 0
				FACU species 10 X 3 30 76 76 76 76 76 76 76 76 76 76 76 76 76
Herbaceous Stratum	Plot size ( 5 Foot Radius)			UPL species 22 X 5 110
Bromus inermis	15	✓	UPL	_     '
Nasturtium officinale	40	<b>✓</b>	OBL	Column Totals 96 (A) 276 (F
Pascopyrum smithii	3		FACU	Prevalence Index = B/A = 2.88
Rumex crispus	5		FAC	Hydrophytic Vegetation Indicators
Unidentified grass	7			_
				☐ 2 - Dominance Test is >50%
				✓ 3 - Prevalence Index is <= 3.0
				4 - Morphological Adaptations (Provide
				supporting data in remarks or on separate sheet.
				5 - Wetland Non-Vascular Plants
				Problematic Hydrophytic Vegetation (Explain
Woody Vine Stratum	Plot size ( 30 Foot Radius)			Indicators of hydric sil and wetland hydrology must be
				present, unless disturbed or problematic for #3, 4, 5.  Hydrophytic Vegetation
Percent Bare Grou	ınd 30			Present?
Remarks:				<u> </u>
Evidence of hydrophytic v	vegetation includes a preval	ence inde	x less than 3	3.0.

SOIL Sampling Point: DP12w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Loc<sup>2</sup> Color (moist) Color (moist) Texture (inches) Remarks 0-03 2/1 100 10YR Mucky mineral 3+ Bedrock Rock refusal <sup>2</sup>Location: PL=Pore Lining, M=Matrix. <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils<sup>3</sup>: Histosol (A1) Sandy Gleyed Matrix (S4) 1 cm Muck (A9) (**LRR I, J**) Histic Epipedon (A2) Sandy Redox (S5) Coast Prairie Redox (A16) (LRR F, G, H) Stripped Matrix (S6) Black Histic (A3) Dark Surface (S7) (LRR G) Loamy Mucky Mineral (F1) High Plains Depressions (F16) Hydrogen Sulfide (A4) (LRR H outside of MLRA 72 & 73) Loamy Gleyed Matrix (F2) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) Reduced Vertic (F18) Redox Dark Surface (F6) Red Parent Material (TF2) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Thick Dark Surface (A12) ✓ Other (Explain in Remarks) Sandy Mucky Mineral (S1) Redox Depressions (F8) <sup>3</sup>Indicators of hydrophytic vegetation and 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) High Plains Depressions (F16) 5 cm Mucky Peat or Peat (S3) (LRR F) wetland hydrology must be present. (MLRA 72 & 73 of LRR H) unless disturbed or problematic. Restrictive Layer (if present): Type: Rock Depth (inches): \_3 Hydric Soil Present? Remarks: This soil meets the Natural Resource Conservation Service (NRCS) definition of hydric soil (NRCS 2018) as having formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register 1994). Rock refusal limited excavation beyond 3". No hydric soil indicators were met due to restrictive rock laver **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Salt Crust (B11) Surface Soil Cracks (B6) ✓ High Water Table (A2) Aquatic Invertebrates (B13) Sparsely Vegetated Concave Surface (B8) ✓ Saturation (A3) Hydrogen Sulfide Odor (C1) ✓ Drainage Patterns (B10) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) Water Marks (B1) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Drift Deposits (B3) (where not tilled) Crayfish Burrows (C8) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Thin Muck Surface (C7) ✓ Geomorphic Position (D2) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Frost-Heave Hummocks (D7) (LRR F) Field Observations: Yes No Depth (inches): Surface Water Present? Yes 🗹 No 🔲 Depth (inches): \_ Water Table Present? Wetland Hydrology Present? Yes Yes \_ No \_ Depth (inches): \_\_\_ Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Evidence of wetland hydrology includes surface water, saturation to the soil surface, high water table, drainage patterns, and geomorphic position.

## MDT Montana Wetland Assessment Form (revised March 2008)

1. Project name Kindsfat	er		2. MDT I	proj	ect#	ST	PX 56 (56)		Cor	ntrol#	5034	
3. Evaluation Date 10/17/202	uation Date 10/17/2022 4. Evaluators J Trilli			ng 5. Wetl			and/Site# (s)	er - creat	- created wetland			
6. Wetland Location(s): T	2S <b>R</b> 2	5E	Sec1	6		т	R		Sec2			
Approx Stationing or Milepos	ts					_						
Watershed 13 - Upper Yel	lowstone Wa	tersh	ed/Count	у	Yellow	stone						
7. Evaluating Agency	CCI for MDT						8. Wetland	size acres	<b>S</b>		5.9	
Purpose of Evaluation							How assess	sed:	Measur	ed e.g. by	/ GPS	
☐ Wetlands potentially affe	cted by MDT project						9. Assesssi				5.9	
☐ Mitigation Wetlands: pre-	construction						(AA) size (ad How assess	•	Magaur	ed e.g. by	CDS	
<b>✓</b> Mitigation Wetlands: pos	t construction						now assess	eu.	ivieasur	eu e.g. by	GFS	
Other												
10. Classification of Wetland	and Aquatic Habitats	in AA										
HGM Class (Brinson)	Class (Cowardin)		Modifie	r (C	owardi	n)	Water R	egime		% of AA	<u>.</u>	
Depressional	Emergent Wetland		Excavat	ed			Seasonal/In	termittent			50	
Depressional	Scrub-Shrub Wetland		Excavat	ed			Seasonal/In	termittent			45	
Depressional	Aquatic Bed		Excavat	ed			Seasonal/In		5			
							]					
<ol> <li>Estimated Relative Abund</li> <li>General Condition of AA         <ol> <li>Disturbance: (use matrix be aquatic nuisance vegetation sp</li> </ol> </li> </ol>	low to determine [circle] a	opropri	iate respon	se –								
		Mana	iged in predo	minar			conditions adjacent		h '		eavily grazed	
Conditions within	n AA	natura hayed conve roads	al state; is no d, logged, or e erted; does no s or buildings; or ANVS cov	otherwork con at con and	zed, wise ntain noxious	mod sele subj few	critically grazed or h ctively logged; or h ect to minor clearin roads or buildings; d or ANVS cover is	layed or las been lg; contains noxious	or logge placeme hydrolo building	ed; subject to ent, grading, gical alteratio	substantial fill clearing, or on; high road or noxious weed	
AA occurs and is managed in predominal grazed, hayed, logged, or otherwise convroads or occupied buildings; and noxious <=15%.	verted; does not contain	lo	ow disturt	oan	се		low disturba	ance	mod	lerate dis	sturbance	
AA not cultivated, but may be moderately selectively logged; or has been subject to placement, or hydrological alteration; cor noxious weed or ANVS cover is <=30%.	relatively minor clearing, fill		modera disturba			m	oderate distu	ırbance	hi	gh distui	bance	
AA cultivated or heavily grazed or logged substantial fill placement, grading, clearin high road or building density; or noxious >=30%.	ng, or hydrological alteration;	hi	gh disturl	ban	се		high disturba	ance	hi ——	gh distur	bance	
Comments: (types of disturba The site is managed in a natural			5% noxio	us w	/eeds.							
ii. Prominent noxious, aquatio	nuisance, other exot	ic spe	ecies:									
Euphorbia esula, Cirsium arvei	nse, Convolvusus arver	nsis										
ii Provide brief descriptive s	ummary of AA and our	rour	dina land	HEC	/hahite	.+						

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 and created wetlands that were not classified as another mitigation type such as preserved, enhanced, re-established, and rehabilitated. Wetland mitigation construction was completed in 2013 and 2022 is the tenth monitoring year for the expanded wetland site. 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		rent management ence of additional	 ,	Modified Rating
>= 3 (or 2 if 1 is forested) classes	Н	NA		NA	NA
2 (or 1 if forested) classes	M	NA		NA	NA
1 class, but not a monoculture	M	<no< td=""><td></td><td>YES&gt;</td><td>L</td></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	s or Animals	S
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			•			·	
Primary or critical habitat	(list species)	( D (	) <b>S</b>				
Secondary habitat (list Sp	oecies)	□ D	) S				
Incidental habitat (list sp	ecies)	□ D	) <b>S</b>				
No usable habitat		<b>√</b> S					
ii. Rating (use the cond	usions from i a	bove and the m	atrix below to arriv	e at [check] the fun	ctional 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	.8H	.7M	.3L	.1L	0L
Sources for US documented use	SFWS IPAC dat	abase					

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 (check one based on definitions contained in instructions):

Primary or critical habitat (list species)	$lacktriangle$ D $\bigcirc$ S	Plains spadefoot (S3)
Secondary habitat (list Species)	□ D    □ S	
Incidental habitat (list species)	□ D    □ S	
No usable habitat		

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

in reading (about no cono							
Highest Habitat Level	doc/primary	sus/primary	doc/secondary	sus/secondary	doc/incidental	sus/incidental	None
<b>S1 Species:</b> Functional Points and Rating	1H	.8H	.7M	6M	2L	1L	
<b>S2 and S3 Species:</b> Functional Points and Rating	.9Н	.7M	6M	5M	.2L	.1L	_OL_

Sources for documented use

Observed approximately 40 plains spadefoot during the 2013 site visit and MDT identified this species during a 2019 site visit; none observed in 2014-2018 or 2020-22.

																			Mod	erate	9	
<b>bstantial</b> (base	d on an	y of the	followin	g [che	eck]):						Minii	nal (b	ased on	any of	the follo	owing	[check])	):	I			
observations	of abun	dant wil	ldlife #s	or hig	h specie	es dive	sity (dui	ing an	y period	i)	fe	w or n	o wildlife	e obser	vations	during	peak u	ise peri	ods			
abundant wil	dlife sigi	n such a	as scat,	tracks	, nest s	tructure	s, game	trails,	etc.		lit	tle to r	no wildlif	e sign								
presence of	extreme	ly limitin	ıg habita	at feati	ures not	availal	ole in the	e surro	unding	area	s	parse a	adjacent	t upland	food s	ources	;					
interviews wi	th local	biologis <sup>t</sup>	ts with k	nowle	dge of t	he AA					in	iterviev	vs with I	ocal bio	ologists	with k	nowledg	ge of the	e AA			
oderate (based	on any	of the fo	llowing	[check	<b>(])</b> :																	
observations	of scatt	ered wil	dlife gro	oups o	r individ	uals or	relative	y few	species	during	peak pe	eriods										
common occ	urrence	of wildli	ife sign :	such a	ıs scat,	tracks,	nest str	uctures	s, game	trails,	etc.											
adequate adj	acent u	pland fo	od sour	ces																		
interviews wi	th local	biologis	ts with k	nowle	dge of t	he AA																
i. Wildlife hate from #13. For other in terms oermanent/per erms]) Structural	class of their	cover to	o be con	onside ipositi	ered evi ion of t	enly o	istribut (see #	ed, th	ne mos Abbre	t and I /iation:	east p s for sı	revale urface	nt <b>veg</b> water	<b>etateo</b> durati	l class ons are	es mi e as f	ust be	within : P/P =	20% o	f each	า	
diversity (see ‡13)				Hi	gh							Mode	erate					Lo	w			
Class cover distribution (all vegetated classes)		Eve	en			Une	ven		E		en	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	А	P/P	S/I	T/E	А		
<b>Low</b> disturbance at AA (see #12i)	Е	Е	E	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	1 . 1		
iii. Rating ( Evidence of							above	and t	he ma	V	Vildlife		ve at   itat fea		rating			points	and	rating	l) Low	
Substantial			+		Excep			H		High							1					1
Moderate					1E .9H			$\vdash$		.91					_	8H 5M	$\vdash$				.7M .3L	ŀ
Minimal					.6N	-		H		.7 .41	- 6					.2L	╁				.1L	ł
																						_
omments	tecto	orum v	ne upla which	may	have	detrim	nental	impa	cts on	wildli	fe witl	hin th	e site.								omus h that the	-

Duration of surface water in AA		Pei	manent /	Perennial			Seasonal / Intermittent						Temporary / Ephemeral					
Aquatic hiding / resting / escape cover	Opt	imal	Adeq	uate	Po	oor	Opti	mal	Ade	quate	Po	or	Opti	mal	Adeo	quate	Po	or
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	.3L
FWP Tier II or Native Game fish species	.9H	.8H	.7M	.6M	.5M	.5M	.8H	.7M	.6M	.5M	.4M	.4M	.6M	.5M	.4M	.3L	.2L	.2L
FWP Tier III or Introduced Game fish	.8Н	.7М	.6М	.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 t	found in AA:	•										
ii. Modified Rating (NOTE: Modified score ca) Is fish use of the AA significantly reduced by current final MDEQ list of waterbodies in need of fishery or aquatic life support, or do aquatic nuis yes, reduce score in i above by 0.1: Modified	a culvert, di of TMDL dev sance plant	ke, or other m relopment with	an-made s listed "Pro	obable Imp	aired Úses"	including	g cold or w	arm water				
b) Does the AA contain a documented spawning comments) for native fish or introduced game fis  iii. Final Score and Rating: 0 NA	sh? ()	ner critical hab Y • N nts: No fish	If yes, a	dd 0.1 to t Modifed	he adjusted Rating	score in	i or iia abo	ove:	1			
14E. Flood Attenuation: (Applies only to wetl channel or overbank flow, click	re and proce	eed to 14F.)					s in AA ar	e not floode	ed from in-			
Estimated or Calculated Entrenchment (Rosge		y entrenched -	C, D, E	Moderat	ely entrench		Entrencl	ned-A, F, G	stream			
1994, 1996) % of flooded wetland classified as forested and/or scrub/shrub	75%	stream types 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			
Climbiliu Entranglica		Moderately I	- marra mala ad				ntrenched			7		
Slightly Entrenched  ER = >2.2	4	ER = 1.4	1 – 2.2		ER = 1.0 – 1.4  A stream type F stream type G stream type							
C stream type D stream type E stream	·	B stream	n type	A	stream type	F			stream type			
Floodprone width  ii. Are ≥10 acres of wetland in the AA subject to within 0.5 mile downstream of the AA (check)?  Comments: Flooding does not occur or channel or overbank flow.	/ Bank widtl o flooding A Y	h ND are man-n N •	nade featu		Bank  = may be sign		h chment damaged b			m in		
<b>14F. Short and Long Term Surface Wa</b> upland surface flow, or groundwater flow. 14G.)									nel flow, pre e and proce			
i. Rating (Working from top to bottom, useter durations are as follows: P/P = perfurther definitions of these terms].)												
Estimated maximum acre feet of water contained in wetlands within the AA that are subject to periodic		>5 acre feet			1.1 to 5 a	acre feet			≤1 acre foot			
flooding or ponding  Duration of surface water at wetlands within the AA	P/P	S/I	T/E	P/F	,	S/I	T/E	P/P	S/I	T/F		

turther definitions of these terms].)										
Estimated maximum acre feet of water contained in wetlands within the AA that are subject to periodic flooding or ponding		>5 acre feet		1.	1 to 5 acre feet	≤1 acre foot				
Duration of surface water at wetlands within the AA	P/P	S/I	T/E	P/P	S/I	T/E	P/P	S/I	T/E	
Wetlands in AA flood or pond ≥ <b>5 out of 10 years</b>	1H	.9H	.8Н	.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/Toxical through influx of surface or ground to 14H.)													ortoxicants and proceed
i. Rating (working from top to be = low])	ttom, use the	e matrix be	elow to a	arrive at	[check	the fo	unctiona	l points	and ra	ting [H	= high,	M = mo	oderate, or l
Sediment, nutrient, and toxicant input levels within AA	to del compoun not subs	ves or surrou liver levels o ds at levels stantially imp es of nutrien eutrophi	fsedimen suchthat aired. Min	its, nutrie other fui nor sedin ants, or s	ents, or nctions a nentatio	are	deve nutrient with por compour	lopment s, or toxi tential to ids such	for "prob cants <b>or</b> deliver h that othe tion, sou	able car AA rece ligh leve er function rces of r	uses" relatives or so Is of sed ons are s	ated to surround iments, in ubstantia or toxica	d of TMDL ediment, ing land us e nutrients, or ally impaired. nts, or signs
% cover of wetland vegetation in AA Evidence of flooding / ponding in AA	≥ 70	0%		< 70%			Vaa	≥ 70	< 70				
AA contains no or restricted outlet	Yes 1H	.8H	.7M	1	.5M	1	Yes .5N		.4ľ		1	.2L	
AA contains unrestricted outlet	.9H	.7M	.6M		.4M		.4N	1	.3	i	.1L		
Comments: Isolated depression within the majority of			have ou	ıtlets. P	ercent	cover	of wetla	nd vege	etation i	ncreas	ed to gr	eater th	nan 70%
14H Sediment/Shoreline Stabilization drainage, or on the shoreline of a stan proceed to 14I.)  i. Rating (working from top to bottom	ding water boo	dy which is	subject to arrive at [	wave a [check] t	ction. I	f 14H do tional p	oes not a	ipply, cli l rating)		ural or r <b>NA</b> he		le	
% Cover of <u>wetland</u> streambank or shoreline by species with stability ratings	Permaner	nt / Perennial	Duration o		water adj				emporary i	Epheme	ral		
of ≥6 (see Appendix F). ≥ 65%		1H			.9H	1	•	10		м	TGI .		
35-64%		.7M			.6N	1				БМ			
< 35%		.3L			 .2L					1L			
such as reed canar annuals such as ch  14I. Production Export/Food Cha  i. Level of Biological Activity (syr  General Fish Habitat	eat grass.	life and fish	habitat ra	atings [cl									
Rating (14D.iii.) E/H	1	M		Ĺ	_								
E/H H		H M		M	_								
M M		M		M L	_								
N/A H		M		L	_								
ii. Rating (Working from top to botton wetland component in the AA; Factor I subsurface outlet; the final three rows [see instructions for further definitions]  A Vegetated component >5	B = level of bid pertain to dura of these terms	ological acti ation of surf	vity rating ace water	from ab	oove (14 AA, whe	I.i.); Fa re P/P,	ctor C =	whether	or not thas previous	ne AA co ously de	ontains a	surface	or
B         High         Moderate           C         Yes         No         Yes         No	Low Yes No		gh No	Mode Yes			ow No	Hi Yes		Mod Yes		Lo Yes	No No
P/P 1E 7H .8H .5M	.6M .4N	.9H	.6M	.7H	.4M	.5M	.3L	.8H	.6M	.6M	.4M	.3L	.2L
S/I .9H .6M .7H .4M	.5M .3L	.8H	.5M	.6M	.3L	.4M	.2L	.7H	.5M	.5M	.3L	.3L	.2L
T/E/A .8H .5M .6M .3L	.4M .2L	.7H	.4M	.5M	.2L	.3L	.1L	.6M	.4M	.4M	.2L	.2L	.1L
iii. Modified Rating (NOTE: Modified clant cover, ≤ 15% noxious weed or AN control). a) Is there an average ≥ 50 foot-wide version the score in ii above and adjust ratin	VS cover, and	that is not	subjected	I to perio	odic med AA circ	chanica	l mowing			ess for w		1	

14J. Groundwater Discharge/Recharge: (check the appropriate indicators in i & ii below) i. Discharge Indicators ii. Recharge Indicators The AA is a slope wetland Permeable substrate present without underlying impeding layer Springs or seeps are known or observed Wetland contains inlet but no outlet Stream is a known 'losing' stream; discharge volume decreases Vegetation growing during domant season/drought Wetland occurs at the toe of a natural slope Other: Seeps are present at the wetland edge AA permanently flooded during drought periods Wetland contains an outlet, but no inlet Shallow water table and the site is saturated to the surface Other: iii. Rating (use the information from i and ii above and the table below to arrive at [check] the functional points and rating) Duration of saturation at AA Wetlands <u>FROM GROUNDWATER</u> <u>DISCHARGE OR WITH WATER</u> THAT IS RECHARGING THE GROUNDWATER SYSTEM Criteria P/P S/I т None Groundwater Discharge or Recharge .1L 1H .4M .7M Insufficient Data/Information Comments: All wetland cells with shallow surface water or cells saturated to surface; gravel substrate in created depressional wetland 14K. Uniqueness: i. Rating (working from top to bottom, use the matrix below to arrive at [check] the functional points and rating) AA does not contain previously AA contains fen, bog, warm springs cited rare types and structural AA does not contain previously Replacement potential or mature (>80 yr-old) forested diversity (#13) is high or contains cited rare types or associations wetland or plant association listed and structural diversity (#13) is plant association listed as "S2" by as "S1" by the MTNHP the MTNHP low-moderate Estimated relative abundant abundant commo abundant common rare rare common rare abundance (#11) n Low disturbance at AA .4M 1H .9H .8H H8. .6M .5M .5M .3L (#12i) Moderate disturbance at .9H .8H .7M .7M .5M .4M .4M .2L .3L AA (#12i) High disturbance at AA .8H .7H .6M .6M .4M .3L .3L .2L .1L (#12i) Comments: Wetlands are considered common, site has moderate disturbance, and structural diversity is moderate. 14L. Recreation/Education Potential: (affords "bonus" points if AA provides recreation or education opportunity) i. Is the AA a known or potential rec./ed. site: (check) Y  $N\bigcirc$ (if 'Yes' continue with the evaluation; if 'No' then click NA here and proceed to the overall summary and rating page) Check categories that apply to the AA: 🖊 Educational/scientific study; 🗹 Consumptive rec.; U Other iii. Rating (use the matrix below to arrive at [check] the functional points and rating) Known or Potential Recreation or Education Area Known Potential Public ownership or public easement with general public access (no permission required) 15H .2H Private ownership with general public access (no permission required) .15H .1M Private or public ownership without general public access, or requiring permission for public access .1M .05L Comments: Access is permitted without permission with the exception of the police shooting range. **General Site Notes** Wetland acreage increased by 0.6 acres since 2021. The site was slightly wetter in 2021 than in 2022.

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

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: (Actual Points x Estimated AA Acreage)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	L	0	1	0.00	
B. MT Natural Heritage Program Species Habitat	Н	.9	1	5.31	<b>✓</b>
C. General Wildlife Habitat	М	.7	1	4.13	<b>✓</b>
D. General Fish Habitat	NA	0	0	0.00	
E. Flood Attenuation	NA	0	0	0.00	
F. Short and Long Term Surface Water Storage	М	.6	1	3.54	
G. Sediment/Nutrient/Toxicant Removal	Н	1	1	5.90	<b>✓</b>
H. Sediment/Shoreline Stabilization	М	.7	1	4.13	
Production Export/Food Chain Support	Н	.8	1	4.72	<b>✓</b>
J. Groundwater Discharge/Recharge	М	.7	1	4.13	
K. Uniqueness	L	.3	1	1.77	
L. Recreation/Education Potential (bonus points)	Н	.2	NA	1.18	
Totals:		5.9	9	34.81	
Percent of Possible Score	•		65.56 %		

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

## **OVERALL ANALYSIS AREA RATING:** (check appropriate category based on the criteria outlined above)

I II III IV
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# MDT Montana Wetland Assessment Form (revised March 2008)

1. Project name Kindsfater		2. MDT pro	oject#	ST	PX 56 (56)		Con	trol# 50	34
3. Evaluation Date 10/17/2022 4. Evaluators	J Trilli	ng	5.	Wetl	and/Site# (s)	Kindsfate	er - existir	ig wetland	
6. Wetland Location(s): T 2S R	25E	Sec1 6	<u> </u>	- т	R		Sec2		1
Approx Stationing or Mileposts									
	/atersh	ed/County	Yellow	stone					
7. Evaluating Agency CCI for MDT		•			0 W-41	_•			20.0
3 3 3					8. Wetland How assess				33.3
Purpose of Evaluation  Wetlands potentially affected by MDT project					9. Assesss				22.2
					(AA) size (a				33.3
<ul> <li>✓ Mitigation Wetlands: pre-construction</li> <li>✓ Mitigation Wetlands: post construction</li> </ul>					How assess	sed:	Measure	d e.g. by C	SPS
Other									
10. Classification of Wetland and Aquatic Habitat	s in AA	١							
HGM Class (Brinson) Class (Cowardin)		Modifier (	Coward	in)	Water R	egime		% of AA	
Slope Emergent Wetland		Partly Dra	ined		Seasonal/Ir	ntermittent			80
Slope Scrub-Shrub Wetland		Partly Dra	ined		Seasonal/Ir	ntermittent			20
		_							
					] [				
Estimated Relative Abundance Common     General Condition of AA     i. Disturbance: (use matrix below to determine [circle] aquatic nuisance vegetation species (ANVS) lists)		iate response	– see ins	tructio	ns for Montana-	listed noxiou	us weed an	d	
	Mana	aged in predomir			conditions adjacer			tivated or hea	vily grazad
Conditions within AA	natura hayed conve roads	al state; is not gi d, logged, or oth erted; does not d s or buildings; an l or ANVS cover	razed, erwise contain nd noxious	mod sele subj	erately grazed or hetively logged; or het to minor clearing roads or buildings; d or ANVS cover is	nayed or nas been ng; contains noxious	or logged placement hydrolog building	d; subject to so nt, grading, clo ical alteration; density; or no cover is >=30	ubstantial fill earing, or high road or kious weed
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%.	lo	ow disturba	nce		low disturba	ance	mode	erate dist	urbance
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 <=30%.		moderate disturbanc		me	oderate distu	ırbance	hiç	gh disturb	ance
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%.	hiç	gh disturba	ince	_	high disturb	ance	hiç	gh disturb	ance
Comments: (types of disturbance, intensity, seaso The site is managed in a natural state and contains le			weeds.						
ii. Prominent noxious, aquatic nuisance, other ex									
Euphorbia esula, Cirsium arvense, Convolvulus arve	nsis, Cy	ynoglossum	officinale	•					
ii. Provide brief descriptive summary of AA and s					in man	-41	10/-411		
The AA consists of pre-existing slope/depressional we constructed was completed in early spring 2013 and 2 AA includes commercial developments, agriculture (gr	022 is t	the tenth mo	nitoring y	ear fo	or the expande	ed wetland	site. Land	l use surro	

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

Existing # of "Cowardin" Vegetated Classes in AA	Initial Rating		rrent management tence of additional		l .	odified 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< td=""><td></td><td>YES&gt;</td><td></td><td>L</td></no<>		YES>		L
1 class, monoculture (1 species comprises>=90% of total cover)	L	NA		NA		NA

Comments:	Emergent wetland community is dominant with areas of scrub-shrub wetland.

#### 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	(check one based on	definitions	contained in	instructions):
i. AA is bocumented (b) or ouspected	· (U	, to contain	(Cileck Olle basea Oll	i aciiiiiiiioiis	Contained in	

Primary or critical habitat (list specie	s)	) S				
Secondary habitat (list Species)	( D (	) <b>s</b>				
Incidental habitat (list species)	□ D	) <b>S</b>				
No usable habitat	□ S					
ii. Rating (use the condusions from	iabove and the m	atrix below to arrive	e at [check] the fun	ctional points and	rating)	
Highest Habitat Level doc/primar	y sus/primary	doc/secondary	sus/secondary	doc/incidental	sus/incidental	None
Functional Points and Rating 1H	.9H	.8H	.7M	3L	.1L	0L
Sources for USFWS IPAC documented use	database					

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

i. AA is Documented (D) or Suspected (S) to contain (check one based on definitions contained in instructions):

Primary or critical habitat (list species)	● D ○ S	Plains spadefoot (S3)
Secondary habitat (list Species)	□ D    □ S	
Incidental habitat (list species)	□ D    □ S	
No usable habitat	S	

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

ii. Italing (use the cone	usions nonn ra	bove and the m	at ix below to aim w	s at [oncord] the fun	ctional points and	raurig)	
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	_OL_
S2 and S3 Species: Functional Points and Rating	.9Н	.7M	.6M	.5M	.2L	.1L	OL

Sources for documented use Observed approximately 40 plains spadefoot during the 2013 site visit and MDT identified this species during a 2019 site visit; none observed in 2014-2018 or 2020-22 but still belived to occupy site.

																			Mode	erate	,
<i>ıbstantial</i> (base	d on an	y of the f	following	g [che	ck]):						Minir	nal (b	ased on	any of	the follo	wing	[check])	:			
observations	of abun	dant wild	dlife #s	or higi	h specie	s diver	sity (dur	ing an	y period	)	fe	w or n	o wildlife	e obser	vations	during	peak u	se perio	ods		
abundant wile	llife sigr	ı such a	s scat, t	racks.	, nest st	ructure	s, game	trails,	etc.		lit	tle to n	o wildlif	e sign							
presence of e	extremel	y limiting	g habita	t featu	ıres not	availat	ole in the	surro	unding a	area	s	oarse a	djacent	upland	food so	ources					
interviews wi	:h local t	oiologist	s with k	nowle	dge of t	he AA					in	terviev	vs with I	ocal bio	ologists	with kı	nowledg	e of the	e AA		
oderate (based	on any c	of the fol	lowing [	check	:]):																
observations	of scatte	ered wild	dlife gro	ups o	r individ	uals or	relativel	y few s	species	during	peak pe	eriods									
common occ	urrence	of wildlif	fe sign ៖	such a	ıs scat, f	tracks,	nest stru	uctures	s, game	trails, e	tc.										
adequate adj	acent ur	oland foo	od sourc	ces																	
interviews wi	h local t	oiologist	s with k	nowle	dge of t	he AA															
rom #13. For other in terms permanent/per erms])	of their	percer	nt com	positi	ion of t	he ÅA	(see #	10).	Abbrev	iations	for su	ırface	water	duration	ons are	as fo	ollows:	P/P =			
Structural diversity (see #13)	High Moderate Low												w								
Class cover distribution (all vegetated classes)		Eve	:n			Une	ven			Eve	en			Uneven				Eve	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	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	М	м	м	L	М	м	L	L	М	М	L	L	М	L	L	L	L	L	L	L	
at AA (see #12i)								and t	he ma	atrix be	elow t	o arri	ve at			funct	ional <sub>l</sub>	ooints	and r	ating	
iii. Rating (							above a	and t	110 1110	И	/ildlife		tat fea	atures	_						
iii. Rating ( Evidence of					omia Except		above a	and t		И High	/ildlife		tat fea	atures	Mod	lerate	e				Low
iii. Rating (						tional	above			И	/ildlife		tat fea	atures	Mod						.7M
iii. Rating ( Evidence of					Except	tional	above			И High	/ildlife		tat fea	atures	Mod	lerate	e				
iii. Rating ( Evidence of Substantial					Except 1E .9F	tional	above			High .9I	H A		tat fea	atures	Mod	derate 8H 5M	e				.7M .3L
iii. Rating ( Evidence of s  Substantial  Moderate					Except	tional	above :			И High .9I	H A		tat fea	atures	Mod	derate 8H					.7M

i. Habitat Quality and	Known	/ Suspec	ted Fish	Specie	s in A	A (usen	natrix to	arrive a	t[check	the funct	ional po	ints and	drating)						
Duration of surface water in AA		Pei	manent /	Perennial				Se	easonal / I	Intermitten	t		Temporary / Ephemeral						
Aquatic hiding / resting / escape cover	Op	timal	Adeq	uate	Po	oor	Optimal		Adequate		Poor		Optimal		Adequate		Poor		
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	.3L	
FWP Tier II or Native Game fish species	.9H	.8H	.7M	.6M	.5M	.5M	.8H	.7M	.6M	.5M	.4M	.4M	.6M	.5M	.4M	.3L	.2L	.2L	
FWP Tier III or Introduced Game fish	.8H	.7М	.6М	.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 fou	ınd in A	A:										
<ul> <li>ii. Modified Rating (NOTE: Modified score can         a) Is fish use of the AA significantly reduced by a         current final MDEQ list of waterbodies in need of fishery or aquatic life support, or do aquatic nuisal         yes, reduce score in i above by 0.1: Modified F</li> </ul>	culvert, TMDL de nce plan	dike evel	, or other m opment with	an-made s listed "Pr	structure or obable Imp	aired l	Jses" inclu	udin	g cold or w		lf	
b) Does the AA contain a documented spawning a comments) for native fish or introduced game fish	_		r critical hab			he adji	ısted scor		g area, etc. i or iia abo			
iii. Final Score and Rating: 0 NA	Comm	ents	s: No fish	habitat v	within mit	igatio	n site.					
14E. Flood Attenuation: (Applies only to wetlar	nds subj	ect	to flooding v	ria in-chan	nel or over	bank fl	ow. If wet	tland	ds in AA are	e not floode	d from in-	
channel or overbank flow, click  NA here	and pro	cee	d to 14F.)									
<ul> <li>i. Rating (working from top to bottom, use the m Estimated or Calculated Entrenchment (Rosgen 1994, 1996)</li> </ul>		tly e	to arrive at   entrenched - stream types	C, D, E	Moderat		renched –		Entrench	ed-A, F, G	stream	
% of flooded wetland classified as forested and/or scrub/shrub	75%	6	25-75%	<25%	75%	25-7	75% <2	5%	75%	25-75%	<25%	
AA contains no outlet or restricted outlet	1⊦	1	.9H	.6M	.8H	.71	М .5	δM	.4M	.3L	.2L	
AA contains unrestricted outlet	.91	1	.8H	.5M	.7M	.61	М .4	ŀМ	.3L	.2L	.1L	
Slightly Entrenched			Moderately E	ntrenched				F	intrenched		•	7
ER = >2.2  C stream type	vne		ER = 1.4	1 – 2.2	ER = 1.0 – 1.4  A stream type F stream type G stream type							
D Steamype D Steamype D Steamype			B strong					Ę	- Stream type		STIGATIN TYPE	
Floodprone width ii. Are ≥10 acres of wetland in the AA subject to f within 0.5 mile downstream of the AA (check)? Comments: Wetlands are not subject to	/ Bai wic looding Y	nkfu ith ANI	D are man-m	nade featu		may be	Bankfull \ = Ent rati significar	Wid tren io ntly	<b>chment</b> damaged b			
<ul> <li>14F. Short and Long Term Surface Water upland surface flow, or groundwater flow. In 14G.)</li> <li>i. Rating (Working from top to bottom, user water durations are as follows: P/P = permanagements.</li> </ul>	fnowe ethem	tlar natri	nds in the A	∖A are su arrive at	bject to flo [check] th	ooding e fund	orpond ctional po	ling.	, dick	NA here	and proce	eed to
further definitions of these terms].)  Estimated maximum acre feet of water contained in	51 10 P	2,0		2 2400110		n., u						
wetlands within the AA that are subject to periodic flooding or ponding			>5 acre feet			1.1	I to 5 acre f	feet			≤1 acre foot	
Duration of surface water at wetlands within the AA	P/P		S/I	T/E	P/F	,	S/I		T/E	P/P	S/I	T/E
Wetlands in AA flood or pond ≥ 5 out of 10 years	1H		.9H	.8H	.8	н	.6M		.5M	.4M	.3L	.2L

Estmated maxmum acre feet of water contained in wetlands within the AA that are subject to periodic flooding or ponding		>5 acre feet		1.:	1 to 5 acre feet			≤1 acre foot	
Duration of surface water at wetlands within the AA	P/P	S/I	T/E	P/P	S/I	T/E	P/P	S/I	T/E
Wetlands in AA flood or pond ≥ 5 out of 10 years	1H	.9H	.8Н	.8Н	.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 27 acres inundated to approximately 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, click NA here and proceed to 14H.)																				
i. Ra	. • •	vorkin	ıg fro	om top	o to bo	ttom, us	se the r	matrix b	elow	to arrive	at [checl	k] the	functiona	al points	and rati	ng [H	= high,	M = m	noderate	, or L
Sedim	ent, nutr within A		nd to	oxicant	input	AA receives or surrounding land use with potential to deliver levels of sediments, nutrients, or compounds at levels such that other functions are not substantially impaired. Minor sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.				Waterbody on MDEQ list of waterbodies in need of TMDL development for "probable causes" related to sediment, nutrients, or toxicants or AA receives or surrounding land use with potential to deliver high levels of sediments, nutrients, or compounds such that other functions are substantially impaired. Major sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.				, use , or ired.						
	er of we						≥ 70%			< 70	)%			≥ 70°	%			< 7	0%	
Evider	ice or iic	ourng	7 poi	iarrig ir	T AA	Yes		No	Υ	'es	No		Yes	<b>.</b>	No		Yes		No	
AA coi	ntains <b>n</b> o	o or re	stric	ted ou	ıtlet	11	+	.8H	.7	и	.5M		.51	1	.4M		.3L		.2L	
AA coi	ntains <b>u</b> i	nrestri	cted	outle	t	.9	н .	.7M	.6	SM	.4M		.41	1	.3L		.2L		.1L	
Comi	ments	: Uni	resti	ricted	drainaç	ge from	the be	nch dov	vn to ı	meadow	below.									
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, click NA here and proceed to 14I.)  i. Rating (working from top to bottom, use the matrix below to arrive at [check] the functional points and rating)  % Cover of wetland streambank or  Duration of surface water adjacent to rooted vegetation																				
	ne by spe see <b>Appe</b>			bility ra	tings	Peri	manent /	Perennial		Se	asonal / In	termitte	nt	Te	emporary / E	Epheme	eral			
≥ 65%	ее Арре	iluix F)					1⊦	-1			.91				.7N	1				
35-64%	<u> </u>						.71	1			.6N	1			.51	Л				
< 35%							.31	-			.2L				.11	-				
Comm		suc	h as	s reed	canar	y grass	, broad			etland cend Russia		t of th	e shoreli	nes are	domina	ed by	deep ro	ooted	pants	
			-			in Supp		and fich	, babit	at ratings	iahaaki)									
Ger	neral Fi	sh Hal	bitat							at ratings <b>g (14C.iii</b>										
F	Rating (	14D.iii	i.)		E/H			М .	-		L ,									
	E/	Н			Н			н			М									
	N	1			Н			М			М									
	L	-			M		_	М			L									
	N/	Α			Н			М		_	L									
ii. Rating (Working from top to bottom, use the matrix below to arrive at [check] the functional points and rating. Factor A = acreage of vegetated wetland component in the AA; Factor B = level of biological activity rating from above (14I.i.); Factor C = whether or not the AA contains a surface or subsurface outlet; the final three rows pertain to duration of surface water in the AA, where P/P, S/I, and T/E are as previously defined, and A = "absent" [see instructions for further definitions of these terms].)																				
A B		igh	egeta	Mode			.ow	ŀ	ligh	egetated con Mo	derate		Low	Hi		Mod	nponent <1 a lerate		Low	
C	Yes	No	1	Yes	No	Yes	No	Yes	No	Yes	No I	Yes	No	Yes	No	Yes	No	Yes	No 1	
P/P	1E	.7H	4	.8H	.5M	.6M	.4M	.9H	.6M	.7H	.4M	.5M	.3L	.8H	.6M	.6M	.4M	.3L	.2L	
S/I	.9H	.6M		.7H	.4M	.5M	.3L	.8H	.5M	.6M	.3L	.4M	.2L	.7H	5M	.5M	.3L	.3L	.2L	
T/E/A	.8H	.5M		.6M	.3L	.4M	.2L	.7H	.4M	.5M	.2L	.3L	.1L	.6M	4M	.4M	.2L	.2L	.1L	
iii Moc	i Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1.) Vegetated Unland Buffer (VUB): Area with > 30%																			

iii. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1.) Vegetated Upland Buffer (VUB): Area with ≥ 30% plant cover, ≤ 15% noxious weed or ANVS cover, and that is not subjected to periodic mechanical mowing or clearing (unless for weed control).

a) Is there an average ≥ 50 foot-wide vegetated upland buffer around ≥ 75% of the AA circumference?

Y

N

If yes, add 0.1 to the score in ii above and adjust rating accordingly:

Modified Rating

Adjacent upland buffer with greater than 30% plant cover.

14J. Groundwater Discharge/Recharge: (check the appropriate indicators in i & ii below) i. Discharge Indicators ii. Recharge Indicators Permeable substrate present without underlying impeding layer 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 Stream is a known 'losing' stream; discharge volume decreases ✓ Wetland occurs at the toe of a natural slope Other: Seeps are present at the wetland edge AA permanently flooded during drought periods Wetland contains an outlet, but no inlet Shallow water table and the site is saturated to the surface Other: iii. Rating (use the information from i and ii above and the table below to arrive at [check] the functional points and rating) Duration of saturation at AA Wetlands <u>FROM GROUNDWATER</u> <u>DISCHARGE OR WITH WATER</u> THAT IS RECHARGING THE GROUNDWATER SYSTEM Criteria P/P S/I т None Groundwater Discharge or Recharge .1L 1H .4M .7M Insufficient Data/Information Comments: PEM/PSS wetland present at the toe of slope; receives groundwater from terrace above. 14K. Uniqueness: i. Rating (working from top to bottom, use the matrix below to arrive at [check] the functional points and rating) AA does not contain previously AA contains fen, bog, warm springs cited rare types and structural AA does not contain previously Replacement potential or mature (>80 yr-old) forested diversity (#13) is high or contains cited rare types or associations wetland or plant association listed and structural diversity (#13) is plant association listed as "S2" by as "S1" by the MTNHP the MTNHP low-moderate Estimated relative abundant abundant commo abundant common rare rare common rare abundance (#11) n Low disturbance at AA 1H .9H .8H H8. .6M .5M .5M .4M .3L (#12i) Moderate disturbance at .9H .8H .7M .7M .5M .4M .4M .2L .3L AA (#12i) High disturbance at AA .6M .3L .8H .7H .6M .4M .3L .2L .1L (#12i) **Comments:** Site is not unique for this area. 14L. Recreation/Education Potential: (affords "bonus" points if AA provides recreation or education opportunity) i. Is the AA a known or potential rec./ed. site: (check) Y  $N\bigcirc$ (if 'Yes' continue with the evaluation; if 'No' then click NA here and proceed to the overall summary and rating page) Check categories that apply to the AA: 🖊 Educational/scientific study; 🗹 Consumptive rec.; U Other iii. Rating (use the matrix below to arrive at [check] the functional points and rating) Known or Potential Recreation or Education Area Known Potential Public ownership or public easement with general public access (no permission required) 15H .2H Private ownership with general public access (no permission required) .15H .1M Private or public ownership without general public access, or requiring permission for public access .1M .05L Comments: Access is permitted without permission with the exception of the police shooting range. **General Site Notes** Wetland acreage within this AA increased in 2022 as compared to 2021. Many of the upland areas are converting to a near monoculture of Bormus tectorum.

# 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 Estimated AA Acreage)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	L	0	1	0.00	
B. MT Natural Heritage Program Species Habitat	Н	.9	1	29.97	<b>✓</b>
C. General Wildlife Habitat	М	.5	1	16.65	
D. General Fish Habitat	NA	0	0	0.00	
E. Flood Attenuation	NA	0	0	0.00	
F. Short and Long Term Surface Water Storage	Н	.9	1	29.97	<b>V</b>
G. Sediment/Nutrient/Toxicant Removal	Н	.9	1	29.97	<b>✓</b>
H. Sediment/Shoreline Stabilization	Н	.9	1	29.97	
I. Production Export/Food Chain Support	Н	.8	1	26.64	<b>✓</b>
J. Groundwater Discharge/Recharge	М	.7	1	23.31	
K. Uniqueness	L	.3	1	9.99	
L. Recreation/Education Potential (bonus points)	Н	.2	NA	6.66	
Totals:		6.1	9	203.13	
Percent of Possible Score	•		67.78 %		

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 I  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  "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 #).	V)
Category III Wetland: (Criteria for Categories I, II, or IV not satisfied)	
Category IV Wetland: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; otherwise go to Category III)  "Low" rating for Uniqueness; and Vegetated wetland component < 1 acre (do not include upland vegetated buffer); and Percent of possible score < 35% (round to nearest whole #).	

## **OVERALL ANALYSIS AREA RATING:** (check appropriate category based on the criteria outlined above)

I II III IV
-------------

**Table B-1.** Kindsfater Wetland Mitigation Site. Comprehensive Vegetation Species List 2013-2022

Scientific Names	Common Names	GP Indicator Status(a)
Achillea millefolium	Common Yarrow	FACU
Agropyron cristatum	Crested Wheatgrass	UPL
Agrostis stolonifera	Spreading Bent	FACW
Alopecurus arundinaceus	Creeping Meadow-Foxtail	FACW
Alyssum alyssoides	Pale or Yellow Alyssum	UPL
Alyssum desertorum	Dwarf Alyssum	UPL
Amaranthus retroflexus	Red-Root	FACU
Arctium minus	Lesser Burdock	FACU
Artemisia absinthium	Common Sagewort	UPL
Artemisia dracunculus	Wild Tarragon	UPL
Artemisia frigida	Fringed Sage	UPL
Artemisia michauxiana	Michaux Sagewort	FAC
Asclepias speciosa	Showy Milkweed	FAC
Asclepias incarnata	Swamp Milkweed	FACW
Atriplex suckleyi	Suckley's Saltbush	UPL
Bassia scoparia (Kochia scoparia)	Mexican-Fireweed	FACU
Berteroa incana	Hoary False Alyssum	UPL
Brassica nigra	Black Mustard	UPL
Bromus arvensis	Field Brome	FACU
Bromus inermis	Smooth Brome	UPL
Bromus japonicus	Japanese Brome	UPL
Bromus tectorum	Cheatgrass	UPL
Calamagrostis canadensis	Bluejoint	FACW
Carduus nutans	Musk Thistle	UPL
Carex aquatilis	Leafy Tussock Sedge	OBL
Carex aurea	Golden-Fruit Sedge	OBL
Carex nebrascensis	Nebraska Sedge	OBL
Carex pellita	Wooly Sedge	OBL
Carex praegracilis	Clustered Field Sedge	FACW
Carex utriculata	Northwest Territory Sedge	OBL
Centaurea stoebe	Spotted Knapweed	UPL
Centaurium exaltatum	Centaury	UPL
Ceratophyllum demersum	Coon's-Tail	OBL
Chenopodium album	Lamb's-Quarters	FACU
Chenopodium sp.	Goosefoot	NA
Cirsium arvense	Canadian Thistle	FACU
Cirsium vulgare	Bull Thistle	UPL
Conium maculatum	Poison-Hemlock	FACW
Convolvulus arvensis	Field Bindweed	UPL
Cornus alba	Red Osier	FACW
Crepis atribarba	Hawksbeard	UPL
Cynoglossum officinale	Gypsy-Flower	FACU

**Table B-1.** Kindsfater Wetland Mitigation Site. Comprehensive Vegetation Species List 2013-2022

Scientific Names	Common Names	GP Indicator Status(a)
Dactylis glomerata	Orchard Grass	FACU
Deschampsia caespitosa	Tufted Hair Grass	FACW
Descurainia sophia	Flixweed Tansymustard	UPL
Elaeagnus angustifolia	Russian-Olive	FACU
Elaeagnus commutata	American Silver-Berry	UPL
Eleocharis palustris	Common Spike-Rush	OBL
Elymus canadensis	Nodding Wild Rye	FACU
Elymus lanceolatus	Streamside Wild Rye	FACU
Elymus repens	Creeping Wild Rye	FACU
Elymus trachycaulus	Slender Wild Rye	FACU
Epilobium ciliatum	Fringed Willowherb	FACW
Equisetum hyemale	Tall Scouring-Rush	FACW
Equisetum laevigatum	Smooth Scouring Rush	FACW
Erigeron caespitosus	Tufted Fleabane	UPL
Erigeron canadensis	Canada Horseweed	FACU
Erodium cicutarium	Stork's bill	UPL
Euphorbia esula	Leafy Spurge	UPL
Filago arvensis	Field Fluffweed	UPL
Fraxinus pennsylvanica	Green Ash	FAC
Fumaria vaillantii	Fumitory	UPL
Galium aparine	Sticky-Willy	FACU
Gaura parviflora	Butterfly Weed	UPL
Glycyrrhiza lepidota	American Licorice	FACU
Grindelia squarrosa	Curly-Cup Gumweed	FACU
Helianthus annuus	Common Sunflower	FACU
Hesperostipa comata	Needle-and-Thread	UPL
Heterotheca villosa	Golden-Aster	UPL
Hordeum jubatum	Fox-Tail Barley	FACW
Hyoscyamus niger	Black Henbane	UPL
Juncus articulatus	Joint-Leaf Rush	OBL
Juncus balticus	Baltic Rush	FACW
Juncus ensifolius	Dagger-Leaf Rush	FACW
Juncus compressus	Round-Fruit Rush	FACW
Juncus longistylis	Long-style Rush	FACW
Juncus torreyi	Torrey's Rush	FACW
Juniperus scopulorum	Rocky Mountain Juniper	UPL
Koeleria macrantha	Prairie Junegrass	UPL
Lactuca serriola	Prickly Lettuce	FAC
Lemna minor	Common Duckweed	OBL
Lepidium campestre	Field Pepperweed	UPL
Lepidium perfoliatum	Clasping Pepperwort	FACU
Logfia arvensis	Fluffweed	UPL

**Table B-1.** Kindsfater Wetland Mitigation Site. Comprehensive Vegetation Species List 2013-2022

Scientific Names	Common Names	GP Indicator Status(a)
Lycopus asper	Rough Water-Horehound	OBL
Marrubium vulgare	White Horehound	FACU
Medicago lupulina	Black Medick	FACU
Medicago sativa	Alfalfa	UPL
Melilotus albus	White Sweetclover	FACU
Melilotus officinalis	Yellow Sweet-Clover	FACU
Mentha arvensis	American Wild Mint	FACW
Muhlenbergia asperiflora	Alkali Muhly	FACW
Nassella viridula	Green Needlegrass	UPL
Nasturium officinale	Water Cress	OBL
Nepeta cataria	Catnip	FACU
Oenothera villosa	Hairly Evening-Primrose	FACU
Onopordum acanthium	Scotch Thistle	UPL
Opuntia polyacantha	Plains Pricklypear	UPL
Panicum capillare	Common Panic Grass	FAC
Pascopyrum smithii	Western-Wheat Grass	FACU
Persicaria amphibia	Water Smartweed	OBL
Persicaria lapathifolia	Dock-Leaf Smartweed	OBL
Phalaris arundinacea	Reed Canary Grass	FACW
Physalis longifolia	Long-leaf Ground Cherry	UPL
Poa compressa	Flat-Stem Blue Grass	FACU
Poa palustris	Fowl Blue Grass	FACW
Poa pratensis	Kentucky Blue Grass	FACU
Polygonum aviculare	Yard Knotweed	FACU
Polypogon monspeliensis	Annual Rabbit's-Foot Grass	FACW
Populus angustifolia	Narrow-Leaf Cottonwood	FACW
Populus deltoides	Eastern Cottonwood	FAC
Potentilla pensylvanica	Pennsylvania Cinquefoil	FACU
Prunus virginiana	Choke Cherry	FACU
Ranunculus gmelinii	Lesser Yellow Water Buttercup	FACW
Ratibida columnifera	Prairie Coneflower	UPL
Ribes aureum	Golden Currant	FACU
Rosa woodsii	Wood's Rose	FACU
Rumex crispus	Curly Dock	FAC
Rumex salicifolius	Willow Dock	FACW
Salix exigua	Narrow-Leaf Willow	FACW
Salix lutea (S. eriocephala)	Yellow Willow	FACW
Salix sp.	Willow	NA
Salsola tragus	Prickly Russian-Thistle	FACU
Schedonorus arundinaceus	Tall False Rye Grass	FAC
Schedonorus pratensis	False Meadow Rye	FACU
Schoenocrambe linifolia	Flax-leaf Plains Mustard	UPL
Schoenoplectus acutus	Hard-Stem Club-Rush	OBL

**Table B-1.** Kindsfater Wetland Mitigation Site. Comprehensive Vegetation Species List 2013-2022

Scientific Names	Common Names	GP Indicator Status(a)
Schoenoplectus pungens	Three-Square	OBL
Scirpus microcarpus	Red-Tinge Bulrush	OBL
Silene latifolia	White Cockle	UPL
Sisymbrium altissimum	Tall Hedge-Mustard	FACU
Sisymbrium loeselii	Smallpod Tumble Mustard	UPL
Solanum dulcamara	Climbing Nightshade	FACU
Solidago canadensis	Canadian Goldenrod	FACU
Sonchus arvensis	Field Sow-Thistle	FAC
Sphaeralcea coccinea	Scarlet Globemallow	UPL
Sporobolus cryptandrus	Sand Dropseed	FACU
Tanacetum vulgare	Common Tansy	FACU
Taraxacum officinale	Common Dandelion	FACU
Thlaspi arvense	Field Pennycress	FACU
Tragopogon dubius	Meadow Goat's-beard	UPL
Typha angustifolia	Narrow-Leaf Cat-Tail	OBL
Typha latifolia	Broad-Leaf Cat-Tail	OBL
Ulmus americana	American Elm	FAC
Verbascum thapsus	Great Mullein	UPL
Verbena bracteata	Carpet Vervain	FACU
Veronica anagallis-aquatica	Blue Water Speedwell	OBL
Veronica peregrina	Neckweed	FACW
Vicia americana	American Purple Vetch	FACU
Vicia sativa	Garden Vetch	FACU
Xanthium strumarium	Rough Cockleburr	FAC
Zeltnera exaltata	Desert Mountain-pink	FACW

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

New species identified in 2022 are **bolded**.

# 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: 2022



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: 2022



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: 2022



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: 2022



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: 2022



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: 2022



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: 2022



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: 2022



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: 2022



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: 2022



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: 2022



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: 2022

#### **Kindsfater: Transect Photographs**



Transect 1: Start Bearing: 240 degrees



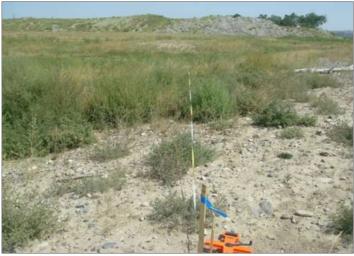
Location: Wetland Cell 14 Year: 2013



Transect 1: Start Bearing: 240 degrees



Location: Wetland Cell 14 Year: 2022



Transect 1: End Bearing: 50 degrees



Year: 2013



Bearing: 50 degrees



Year: 2022



Transect 2: Start Bearing: 225 degrees

Location: Wetland Cell 8 Year 2013



Transect 2: Start Bearing: 225 degrees

Location: Wetland Cell 8 Year 2022

#### **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 2022



Transect 3: Start Bearing: 290 degrees

Location: Wetland Cell 4 Year 2013



Transect 3: Start Bearing: 290 degrees

Location: Wetland Cell 4 Year 2022



Transect 3: End Bearing: 290 degrees

Location: Wetland Cell 4 Year 2013



Transect 3: End Bearing: 290 degrees

Location: Wetland Cell 4 Year 2022



Data Point: DP01w Year 2022



Data Point: DP01u Year 2022



Location: Veg Community 14



Data Point: DP02w Year 2022



Location: Veg Community 11

Location: Veg Community 11

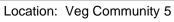


Data Point: DP02u





Data Point: DP03w Year 2022





Data Point: DP03u Year 2022

Location: Veg Community 14



Data Point: DP04w Year 2022



Data Point: DP04u Year 2022

Location: Veg Community 12



Data Point: DP05w Year 2022



Location: Veg Community 14

Location: Veg Community 5



Data Point: DP05u Year 2022

Location: Veg Community 4/15



Data Point: DP06w Year 2022

Location: Veg Community 16



Data Point: DP06u Year 2022

Location: Veg Community 4/14



Data Point: DP07w Year 2022



Data Point: DP07u Year 2022

Location: Veg Community 10



Data Point: DP08w Year 2022



Location: Veg Community 8



Data Point: DP08u Year 2022

Location: Veg Community 17



Data Point: DP09w Year 2022

Location: Veg Community 9



Data Point: DP09u Year 2022

Location: Veg Community 17



Data Point: DP10w Year 2022



Data Point: DP10u Year 2022

Location: Veg Community 17



Data Point: DP11w Year 2022



Location: Veg Community 11

Location: Veg Community 3



Data Point: DP11u Year 2022

Location: Veg Community 17



Data Point: DP12w Year 2022

Location: Veg Community 16



Data Point: DP12u Year 2022

Location: Veg Community 14