Montana Department of Transportation Wetland Mitigation Monitoring Report

FORSYTH – NORTHWEST MITIGATION SITES: FORSYTH WEST, MIDDLE, AND EAST

Project Overview

MDT Project: STTP 14 (9)259, UPN #4059

Watershed: Watershed #14 – Middle Yellowstone

Monitoring Year: 2024

Years Monitored: 12th year of monitoring

Corps Permit Number: NWO-2002-90-599 and NWO-2006-90676 MTB

Monitoring Conducted By: Confluence Consulting Inc. for MDT

Dates Monitoring Was Conducted: June 10th – June 11th, 2024

Purpose of the Approved Project:

The Forsyth – Northwest (FNW) sites were developed to mitigate for a cumulative total of 8.98 acres of wetland impacts associated with two Montana Department of Transportation (MDT) highway construction projects: (1) the Volborg – North and South project, constructed in 2004, and (2) the FNW project, constructed in 2012. Four individual mitigation sites in close proximity to each other were constructed as part of this project and include the Treasure County Line, Forsyth West, Forsyth Middle, and Forsyth East. Monitoring at the Treasure County Line site was completed in 2017. This report encompasses the three remaining Forsyth sites monitored in 2024. Wetland compensatory mitigation ratios from the Montana Regulatory Program of the US Army Corps of Engineers, dated April 2005, were used to determine the anticipated mitigation credits outlined in the approved wetland mitigation plan, which indicated that the project could earn 11.79 acres of wetland mitigation credit for the three remaining sites.

Site Locations:

West site - Latitude: 46.33927, **Longitude:** –106.876743

Middle site - Latitude: 46.323159**, Longitude:** -106.843010

East site - Latitude: 46.31969, **Longitude:** -106.83657

County: Rosebud **Nearest Town:** Forsyth, MT

Map Included: Yes, Figure 1

Mitigation Site Construction Started: Spring 2012 **Construction Ended:** Fall 2012 Embankment repairs made in Spring 2017

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

Activity: Weed Control **Date:** Fall treatment on September 23, 2024, during low water periods to treat five-stamen tamarisk seedlings along edges of West site. Treatments also occurred on August 21 and October 5, 2024.

Specific recommendations for corrective actions: Continue to treat noxious weeds, especially at the Middle site. Evaluate ongoing wind-caused bank erosion observed along the outlet embankment in the SE corner of the West site.

Anticipated Wetland Credit Acres: 11.79

Wetland Credit Acres Generated to Date: 5.67

Wetland Acreage within the Project Area: 5.38

Mudflat Acreage within the Project Area: 0.0

Open Water Acreage within the Project Area: 6.56

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). The monitoring period was extended because of adaptive management actions in 2017 to repair a failed dike structure at the FNW-West mitigation site.

Requirements (from approved mitigation plan, banking instrument, or Department of Army (DA) permit conditions)

Summary of Performance Standards: Formal performance standards were not developed as part of the mitigation plan for these sites. All three sites have developed wetland habitat as intended and contain wetland vegetation, hydric soils, and indicators of wetland hydrology. All of the sites are stable; the East and West sites have less than 5 percent total noxious weed cover, and the Middle site has less than 10 percent noxious weed cover. All three sites are functioning as designed, however, the West site lost wetland acreage credits due to changes in how the USACE is awarding credit for open water and mud flats.

Summary Data: Combined West, Middle, and East Sites

Wetland Delineation – The total wetland acreage delineated at the three FNW sites in 2024 was 5.38 acres of palustrine emergent (PEM) wetland. Additionally, 6.56-acres of open water were mapped at the FNW-West site. No open water or mud flats were identified at the FNW -Middle or FNW-East sites. Across the three sites, wetland area decreased by 0.29 acre in 2024. Open water acreage at the West site increased by 0.14 acre in 2024, and no mudflats were observed (Table 1; Figures A-3 and A-4, Appendix A).

The adaptive management strategies implemented in 2017 (repair of a breached earthen embankment to original design) at the FNW-West site has resulted in broader inundation across the site, and in response to the inundation, some areas that were previously delineated as wetland were delineated as open water in 2020-2024. All areas delineated as mudflat habitat in 2021 and 2022 were either inundated or had developed enough vegetation to be considered PEM wetland in 2024.

In 2020, the USACE 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” (Green, 2022). Options to assign credit acres for open water and mud flat habitats are still pending, and therefore wetland acreage credited to this site from 2020-2024 is significantly less than what was reported in 2019 and earlier.

Table 1. Wetland Habitat Acreages Delineated at the FNW Sites (2015 and 2022–2024)

Site	2015 (acres)	2022 (acres)			2023 (acres)			2024 (acres)		
		Wetland	Open Water	Mud flat	Wetland	Open Water	Mud flat	Wetland	Open Water	Mud flat
FNW-West	6.01	1.86	8.26	0.51	4.25	6.42	0.00	4.01	6.56	0.00
FNW-Middle	0.49	0.58	-	-	0.58	-	-	0.55	-	-
FNW-East	0.46	0.74	-	-	0.84	-	-	0.82	-	-
Total	**6.96**	**3.18**	**8.26**	**0.51**	**5.67**	**6.42**	**0.00**	**5.38**	**6.56**	**0.00**

Functional Assessment – The FNW-East and FNW-Middle sites are considered Category III wetlands, and the FNW- West site is a Category II wetland (Table 2) that received MWAM scores of 53%, 44%, and 63% respectively. All three sites generated a combined total of 26.85 Functional Units in 2024 (Table 9).

Photographs – Photographs were taken at all three FNW sites in 2024 and are provided in Appendix C. The photographs taken at permanent photo points and transect endpoints are presented alongside photos from the first year of monitoring. Please refer to previous years' monitoring reports for photographs from all other years (https://www.mdt.mt.gov/publications/brochures/wetland-mitigation.aspx).

Wildlife – Wildlife species that were observed directly or indirectly at the three monitoring sites during the 2024 field surveys are listed in the Wetland Mitigation Site Monitoring forms for each site (Appendix B). In 2024, 23 bird species were observed at the three sites during the monitoring visit.

Table 2. 2024 Montana Wetland Assessment Method (MWAM) Functional Value Summary for the Forsyth Northwest Sites. Values shown are the actual functional points scored by each site.

Function and Value Parameters From the 2008 Montana Wetland Assessment Method	FNW-West	FNW-Middle	FNW-East
Listed/Proposed Threatened & Endangered (T&E) Species Habitat	Low (0.1)	Low (0.1)	Low (0.1)
Montana Natural Heritage Program (MTNHP) Species Habitat	High (0.9)	High (0.9)	High (0.9)
General Wildlife Habitat	High (0.9)	Mod (0.4)	Mod (0.4)
General Fish/Aquatic Habitat	Low (0.3)	N/A	N/A
Flood Attenuation	Mod (0.5)	Mod (0.5)	Mod (0.5)
Short- and Long-Term, Surface-Water Storage	High (0.9)	Low (0.3)	Mod (0.6)
Sediment/Nutrient/Toxicant Removal	Mod (0.7)	High (0.8)	High (1.0)
Sediment/Shoreline Stabilization	Mod (0.6)	NA	N/A
Production Export/Food Chain Support	Mod (0.7)	Low (0.3)	Mod (0.4)
Groundwater Discharge/Recharge	Mod (0.7)	N/A	Mod (0.7)
Uniqueness	Mod (0.4)	Low (0.2)	Low (0.2)
Recreation/Education Potential (bonus points)	High (0.2)	N/A	N/A
Actual Points/Possible Points	**6.9/11**	**3.5/8**	**4.8/9**
% of Possible Score Achieved	**63%**	**44%**	**53%**
Overall Category	**II**	**III**	**III**

[(a)] Assessment area included wetland and open water.

Summary Data: Specific to the FNW-West Site

FNW-West Site Vegetation – Nine vegetation communities, identified based on plant composition and dominance, were mapped on the FNW–West site in 2024. The vegetation communities have changed significantly over the last few years as a result of increased inundation across the site. Much of the vegetation that previously grew in the inundated areas has died off, including woody species such as cottonwood and willow, and the inundated areas have begun to develop emergent vegetation communities comprised of cattail and bullrush species.

Emergent wetland communities are found scattered throughout the inundated areas of the site and around the fringes of the inundated areas. Inundated areas with less than 5% cover of emergent vegetation are represented by Wetland Type 17 – Open Water/Aquatic Macrophytes. The Mudflat Community was created to classify previously inundated areas that were exposed in 2021 and 2022 and have less than 5% vegetative cover, however none of these areas were observed during the 2024 site visit due to the expansion of open water and vegetation communities with greater than 5% vegetative cover.

The community composition for each community type is provided in full detail on the Wetland Mitigation Site Monitoring forms (Appendix B), and the community boundaries are shown on Figure A-3 (Appendix A). The following vegetation community types were identified at the FNW-West mitigation site in 2024:

- Upland Type 1 – *Bromus tectorum*/*Sarcobatus vermiculatus*
- Upland Type 6 – *Pascopyrum smithii*/*Bromus tectorum*
- Upland Type 20 - *Thlaspi arvense/Lepidium perfoliatum*
- Upland Type 23 – *Symphoricarpos albus*/*Elymus repens*
- Wetland Type 8 – *Typha latifolia*/*Eleocharis palustris*
- Wetland Type 16 - *Alopecurus arundinaceus/Hordeum jubatum*
- Wetland Type 17 – Open Water/Aquatic Macrophytes.
- Wetland Type 21 – *Schoenoplectus* sp./Open Water
- Wetland Type 22 – *Eleocharis palustris/*Bare ground

Vegetation cover was measured along two transects in 2024, on foot for the terrestrial portions and by kayak for the aquatic portions (Tables 3 & 4; Figure A-2, Appendix A). Table 3 summarizes the data for T-1 which is 282 feet long and intersects Upland Type 6 and aquatic community 17 (Open Water). The amount of open water along T-1 increased slightly from 89% to 90% between 2023 and 2024. The total amount of vegetation stayed consistent at 13% (Table 3).

Table 3. Data Summary for T-1 From 2017 Through 2024 at the FNW-West Site

Monitoring Year	2017	2018	2019	2020	2021	2022	2023	2024
Transect Length (feet)	**282**	**282**	**282**	**282**	**282**	**282**	**282**	**282**
Vegetation Community Transitions Along Transect	5	1	1	2	3	2	3	2
Vegetation Communities Along Transect	5	1	1	2	3	2	4	2
Hydrophytic Vegetation Communities Along Transect	2	0	1	1	1	1	1	0
Total Vegetative Species	18	5	4	9	7	8	13	14
Total Hydrophytic Species	4	0	1	3	1	1	1	5
Total Upland Species	14	5	4	6	6	7	12	9
Estimated % Total Vegetative Cover	46	5	10	3	3	4	13	13
Estimated % Unvegetated	54	95	65	97	97	96	87	87
% Transect Length Comprising Hydrophytic Vegetation Communities	34	0	30	3	4	3	6	0
% Transect Length Comprising Upland Vegetation Communities	66	5	5	5	5	5	5	10
% Transect Length Comprising Unvegetated Open Water	0	95	65	92	89	88	89	90
% Transect Length Comprising of Mudflat	0	0	0	0	2	4	0	0

T-2 is 261 feet long and intersects aquatic community 17 (Open Water), and Upland Types 6 and 23. Open water comprised of 88% of the transect. Total vegetative cover along the transect stayed consistent at 11% (Table 4).

Detailed data collected along each transect are provided in the Wetland Mitigation Site Monitoring form in Appendix B. Photographs of the transect end points are provided in Appendix C.

In 2024, 23 noxious weed patches were mapped at FNW-West, which is an increase of seven patches since 2023. All noxious weed patches were comprised of four Priority 2B species. Canada thistle (*Cirsium*

arvense) was observed in trace, low, and moderate cover classes at eight locations. Leafy spurge (*Euphorbia esula*) increased significantly in 2024 from two patches to six patches ranging from low to high cover. One five-stamen tamarisk (*Tamarix chinensis*) individual was observed along the southwest boundary of the project area (Figure A-3; Appendix A). Field bindweed (*Convolvulus arvensis*) continues to increase within UT6 in the northeast portion of the site. Across all plant communities, a total of 61 plant species have been identified at FNW-West from 2013 to 2024 (Table B-1; Appendix B).

Table 4. Data Summary for T-2 From 2017 Through 2024 at the FNW-West Site

Monitoring Year	2017	2018	2019	2020	2021	2022	2023	2024
Transect Length (feet)	**261**	**261**	**261**	**261**	**261**	**261**	**261**	**261**
Vegetation Community Transitions Along Transect	3	2	2	3	3	3	2	2
Vegetation Communities Along Transect	4	3	3	3	2	2	3	3
Hydrophytic Vegetation Communities Along Transect	2	1	1	1	1	0	0	0
Total Vegetative Species	19	13	15	19	20	21	19	16
Total Hydrophytic Species	9	4	5	6	7	6	5	5
Total Upland Species	10	9	10	13	13	15	14	11
Estimated % Total Vegetative Cover	92	20	20	3	3	5	11	11
Estimated % Unvegetated	8	80	80	97	97	95	89	89
% Transect Length Comprising Hydrophytic Vegetation Communities	87	90	90	2	3	0	0	0
% Transect Length Comprising Upland Vegetation Communities	13	10	10	7	7	10	13	12
% Transect Length Comprising Unvegetated Open Water	0	0	0	91	87	85	87	88
% Transect Length Comprising of Mudflat	0	0	0	0	5	5	0	0

FNW-West Site Hydrology – The main source of hydrology at the FNW-West site is surface runoff from precipitation events in the East Spring Coulee, which flows directly into the site. Additional hydrology is provided by a seasonally high groundwater table and flood flows from nearby Big Porcupine Creek. During the 2024 monitoring the site was sufficiently inundated, likely due to heavy runoff from Big Porcupine Creek and East Spring Coulee. Indicators of wetland hydrology observed at the FNW-West site included surface water, high water table, soil saturation, algal mat or crust, drift deposits, geomorphic position, and oxidized rhizospheres on living roots.

FNW-West Site Soils – Soil test pits were excavated at six locations (DP01-03w and DP01-03u; Figure A-4, Appendix A). All test pits were located in areas originally mapped as the Marvan silty clay soil series (NRCS, 2024b). Soil textures ranged from silty clay to loamy sand. The two hydric soil indicators observed were sandy gleyed matrix and depleted matrix within wetland sampling points. No hydric soil indicators were observed in the upland sample pits.

Summary Data: Specific to FNW-Middle Site

FNW-Middle Site Vegetation – Vegetation communities were identified based on plant composition and dominance. The following vegetation community types were identified at FNW-Middle in 2024:

- Upland Type 6 – *Pascopyrum smithii/Convolvulus arvensis*
- Wetland Type 5 – *Hordeum jubatum/Eleocharis palustris*

The community composition for each community type is provided in full detail on the Wetland Mitigation Site Monitoring form (Appendix B), and the community boundaries are shown in Figure A-6 (Appendix A). In 2024, 25 occurrences of Priority 2B noxious weeds, Canada thistle and field bindweed, were observed at the site. Cover classes of the weed infestations ranged from trace to high (Figure A-6, Appendix A) with previously observed patches increasing in cover. Field bindweed cover continued to

increase notably between 2023 and 2024, and infestations now range from low to high. Canada thistle also continued to expand with two new mapped patches and two patches increasing in cover class. A total of 63 plant species were identified on the site from 2013 through 2024 (for a comprehensive plant list, see Table B-2; Appendix B).

Vegetation cover was measured along one transect (T-1) at FNW-Middle in 2024 (Figure A-5, Appendix A). T-1 is 50 feet long and intersects Upland Type 6 and Wetland Type 5. In 2024, 36% of the transect crossed wetland habitat, an increase of 8% over the previous two years. The total number of vegetative species observed along T-1 in 2024 was 15, both wetland and upland species decreased since 2023. However, the total amount of vegetative cover remained the same as in 2023 at 87% (Table 5). Detailed data collected along T-1 are provided in the Wetland Mitigation Site Monitoring form in Appendix B. Photographs of the transect end points are provided in Appendix C.

Table 5. Data Summary for T-1 From 2017 Through 2024 at the FNW-Middle Site

Monitoring Year	2017	2018	2019	2020	2021	2022	2023	2024
Transect Length (feet)	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**
Vegetation Community Transitions Along Transect	2	2	2	2	2	2	2	2
Vegetation Communities Along Transect	2	2	2	2	2	2	2	2
Hydrophytic Vegetation Communities Along Transect	1	1	1	1	1	1	1	1
Total Vegetative Species	17	17	16	24	22	23	21	15
Total Hydrophytic Species	4	5	4	11	6	7	6	5
Total Upland Species	13	12	12	13	16	16	15	10
Estimated % Total Vegetative Cover	83	85	85	85	85	87	87	87
Estimated % Unvegetated	17	15	15	15	15	13	13	13
% Transect Length Comprising Hydrophytic Vegetation Communities	38	38	38	24	24	28	28	36
% Transect Length Comprising Upland Vegetation Communities	62	62	62	76	76	72	72	64
% Transect Length Comprising Unvegetated Open Water	0	0	0	0	0	0	0	0
% Transect Length Comprising of Mudflat	0	0	0	0	0	0	0	0

FNW-Middle Site Hydrology – This site is situated near an abandoned meander bend that is associated with Big Porcupine Creek. The site may experience occasional flooding during high flows in Big Porcupine Creek but is not intended to exhibit perennial inundation because of its proximity to Montana Highway 12. The excavated depression was inundated during the 2024 monitoring visit. Hydrologic indicators that were observed at this site included water-stained leaves, surface water, soil saturation, hydrogen sulfide odor, geomorphic position, and a high water table.

FNW-Middle Site Soils – Soil test pits were examined at four locations (DP01-02w and DP01-02u; Figure A-7, Appendix A), and all locations were within what was originally mapped as the Harlem silty clay soil series by the NRCS (2024b). DP01w and DP02w were located within Wetland Type 5, *Hordeum jubatum/Eleocharis palustris* while DP01u and DP02u were in Upland Type 6 – *Pascopyrum smithii/Convolvulus arvensis*. Soil textures were clay, muck, or silty clay. In the wetland sample pits, hydric soil indicators were hydrogen sulfide and depleted matrix. No hydric soil indicators were observed within either upland sample pit.

Summary Data: Specific to FNW-East Site

FNW-East Site Vegetation – Vegetation communities were identified based on plant composition and dominance. The following vegetation community types were identified in 2024:

- Upland Type 3 – *Pascopyrum smithii/Elymus spp.*
- Wetland Type 6 – *Eleocharis palustris/Alopecurus spp.*

The community type name for the wetland areas was updated from Wetland Type 5 (*Hordeum jubatum/Alopecurus spp.)* to Wetland Type 6 (*Eleocharis palustris/Alopecurus spp.)* in 2024, as this name is more reflective of the current plant species composition. The community composition for each community type is provided in full detail on the Wetland Mitigation Site Monitoring form (Appendix B), and community boundaries are shown on Figure A-9 (Appendix A).

A total of 62 plant species were identified on the site from 2013 through 2024 (for a comprehensive plant list, see Table B-3; Appendix B). Infestations of three Priority 2B noxious weeds, field bindweed (*Convolvulus arvensis*), Canada thistle (*Cirsium arvense*), and five-stamen tamarisk (*Tamarix chinensis*) were mapped in ten locations (Figure A-9, Appendix A). Five-stamen tamarisk appeared to have been eradicated in 2022, but one individual was observed in the southeast corner of the site in 2024. Three new field bindweed patches were mapped as high cover, and one field bindweed patch increased from low to moderate cover. No woody plants were installed at the FNW-East site. However, mature cottonwoods and willows adjacent to the site appear to be acting as a source population for the cottonwood and willow seedlings that continue to establish on the site.

Vegetation cover was measured along two transects (T-1 and T-2) at FNW-East in 2024 (Figure A-8, Appendix A). T-1 is 125 feet long and intersects Upland Type 3 and Wetland Type 6. Within the transect, 46% was comprised of wetland habitat, a decrease of 6% from previous years likely due to shifts in plant species in response to changing inundation levels. The total vegetative cover was 97%, similar to the previous year. The number of vegetative species increased by four and the number of hydrophytic species also increased since 2023 (Table 6). Detailed data collected along each transect are provided in the Wetland Mitigation Site Monitoring form in Appendix B. Photographs of the transect end points are provided in Appendix C.

T-2 is 181 feet long and intersects Upland Type 3 and Wetland Type 6. In 2024, 49.2% of the transect crossed wetland habitat. The number of hydrophytic species observed along the transect increased by two since 2023, and the total number of upland species observed decreased by one. Total vegetative cover has remained constant at 98 percent since 2017 (Table 7).

Table 6. Data Summary for T-1 From 2017 Through 2024 at the FNW-East Site

Monitoring Year	2017	2018	2019	2020	2021	2022	2023	2024
Transect Length (feet)	**125**	**125**	**125**	**125**	**125**	**125**	**125**	**125**
Vegetation Community Transitions Along Transect	2	2	2	2	2	2	2	2
Vegetation Communities Along Transect	2	2	2	2	2	2	2	2
Hydrophytic Vegetation Communities Along Transect	1	1	1	1	1	1	1	1
Total Vegetative Species	17	17	16	16	14	15	14	18
Total Hydrophytic Species	7	7	7	4	2	2	2	5
Total Upland Species	10	10	9	12	12	13	12	13
Estimated % Total Vegetative Cover	95	95	95	95	95	96	97	97
Estimated % Unvegetated	5	5	5	5	5	4	3	3
% Transect Length Comprising Hydrophytic Vegetation Communities	50	52	52	52	52	52	52	46
% Transect Length Comprising Upland Vegetation Communities	50	48	48	48	48	48	48	54
% Transect Length Comprising Unvegetated Open Water	0	0	0	0	0	0	0	0
% Transect Length Comprising of Mudflat	0	0	0	0	0	0	0	0

Table 7. Data Summary for T-2 From 2017 Through 2024 at the FNW-East Site

Monitoring Year	2017	2018	2019	2020	2021	2022	2023	2024
Transect Length (feet)	**181**	**181**	**181**	**181**	**181**	**181**	**181**	**181**
Vegetation Community Transitions Along Transect	2	2	2	2	2	2	2	2
Vegetation Communities Along Transect	2	2	2	2	2	2	2	2
Hydrophytic Vegetation Communities Along Transect	1	1	1	1	1	1	1	1
Total Vegetative Species	11	14	15	10	12	15	15	16
Total Hydrophytic Species	4	6	6	2	3	4	5	7
Total Upland Species	7	8	9	8	9	11	10	9
Estimated % Total Vegetative Cover	98	98	98	98	98	98	98	98
Estimated % Unvegetated	2	2	2	2	2	2	2	2
% Transect Length Comprising Hydrophytic Vegetation Communities	55	55	55	55	60	60	61	49
% Transect Length Comprising Upland Vegetation Communities	45	45	45	45	40	40	39	51
% Transect Length Comprising Unvegetated Open Water	0	0	0	0	0	0	0	0
% Transect Length Comprising of Mudflat	0	0	0	0	0	0	0	0

FNW-East Site Hydrology – The FNW-East site is very similar to the FNW-Middle site. The main sources of hydrology at the FNW-East site are shallow groundwater, direct precipitation, surface runoff from adjacent uplands, and overland flooding from nearby Big Porcupine Creek. Old meander scars of Big Porcupine Creek with relict and contemporary wetland characteristics are located directly adjacent to the site. The excavated depression was only inundated on the west end of the site during monitoring. Hydrologic indicators that were observed at this site included sulfidic odor, soil saturation, surface water, geomorphic position, and a high water table.

FNW-East Site Soils – Soil test pits were examined in six locations (DP01-03w and DP01-03u; Figure A-10, Appendix A), and all locations were within what was originally mapped as the Harlem silty clay soil series (NRCS, 2024b). Wetland soils had textures ranging from silty clay to mucky loam/clay. Hydric soil

indicators observed across wetland soil pits included hydrogen sulfide, 1 cm muck, and loamy gleyed matrix. No hydric soil indicators were observed in the upland sample pits.

Mitigation Credit Summary: All Sites

The three FNW sites produced 5.67 credit acres combined in 2024. However, the number of credit acres earned does not include any credits for the open water that is present at the FNW-West site. Once credit ratios are determined for this habitat type, the site will likely receive additional credit acres. Options to include open water and mudflats in the mitigation crediting scheme require approval from USACE, which is currently pending.

Table 8. 2024 Credit/Debit Summary for the Forsyth – Northwest Project

Project Site	Actual Acres	Mitigation Credit Type	Debit Ratio	Credit Acres
West Site (Site 1)	2.72	Establishment (Creation) (all wetland minus preservation)	1:1	2.72
	1.29	Preservation	4:1	0.32
	3.16	Upland Buffer	5:1	0.63
	6.56	Open Water[a]	TBD	TBD
	0.0	Mud Flat[a]	TBD	TBD
Middle Site (Site 2)	0.55	Establishment (Creation)	1:1	0.55
	1.25	Upland Buffer	5:1	0.25
East Site (Site 3)	0.82	Establishment (Creation)	1:1	0.82
	1.92	Upland Buffer	5:1	0.38
Total	**18.27**	**Total Credits**		**5.67**

[(a)] Open water and mud flat credit ratio and associated credit acreage are to be determined (TBD).

Functional Unit Credit Summary: All Sites

The 2024 functional unit credits summary is summarized in Table 9. A total of 26.85 functional unit credits were generated at the Forsyth NW site after applying the appropriate mitigation ratios to the 2024 wetland acreage and multiplying that value by the points generated from the 2024 MWAM Assessment.

Table 9. Functional Unit Credits Summary for Forsyth NW

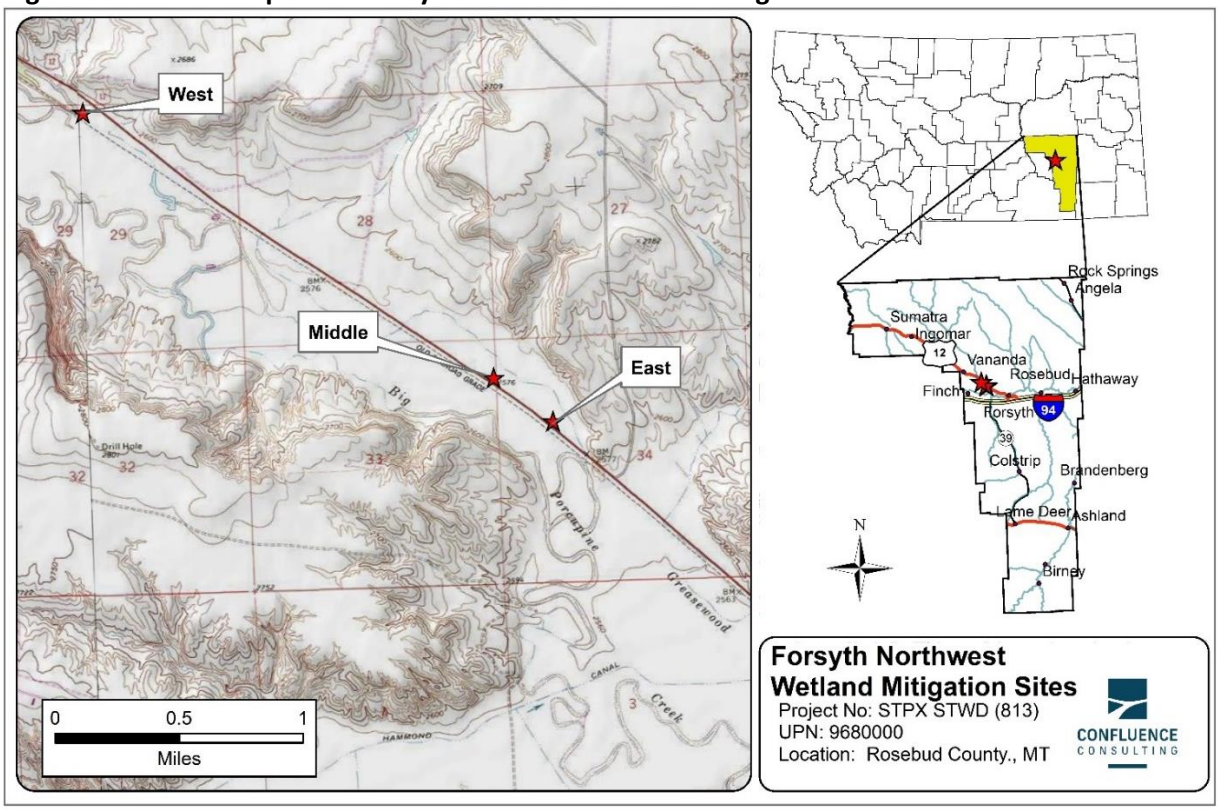
Project Site	Mitigation Credit Type	2024 Delineated acres	Ratio	2024 Mitigation Credit Acres	MWAM Actual Points	Functional Unit Credits
West Site (Site 1)	Establishment (Creation) (all wetland minus preservation)	2.72	1:1	2.72	6.90	18.77
	Preservation	1.29	4:1	0.32	6.90	2.21
	Open Water	6.56	TBD	TBD	TBD	TBD
	Mud Flat	0.0	TBD	TBD	TBD	TBD
Middle Site (Site 2)	Establishment (Creation)	0.55	1:1	0.55	3.5	1.93
East Site (Site 3)	Establishment (Creation)	0.82	1:1	0.82	4.8	3.94
	Total	**11.94**	-	**4.41**	-	**26.85**

Conclusions

Formal performance standards were not developed as part of the mitigation plan for the FNW sites. All three sites have developed wetland habitat as intended and positive indicators of wetland vegetation, hydric soils, and wetland hydrology have been consistently observed across all monitoring years. All sites are stable and have appropriate amounts of vegetative cover. Noxious weed cover increased slightly between the 2023 and 2024 monitoring events, but all three sites still have less than 10 percent total noxious weed cover. Weed management actions were conducted by MDT's weed contractor on August 21, and again October 5, 2024, to treat five-stamen tamarisk, after the monitoring visit by CCI. Canada thistle, five-stamen tamarisk, leafy spurge, and Russian thistle were all treated. The late season spraying was to treat five-stamen tamarisk (*Tamarix chinensis*) seedlings along the edges of the West wetland.

The Forsyth NW sites were inundated to a similar degree during the monitoring site visit in 2024 as in 2023. Wetland acreage decreased across the three sites by a total of 0.29 acre in 2024. These changes are likely the result of consistent inundation and natural wetland boundary changes. The FNW-West site contained more open water in 2024 than in 2023 due to consistent flooding from the Big Porcupine Creek channel and changes in vegetation communities. All of the habitat mapped as mudflat in 2021 and 2022 was again mapped as open water in 2024 largely owing to increased inundation at the site.

Figure 1. Location map of the Forsyth Northwest wetland mitigation sites.



Project Area Maps/Figures: See Appendix A.

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

Photos: See Appendix C.

Plans: See Appendix D of 2013 Forsyth Northwest Monitoring Report located on the MDT website at this link:

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

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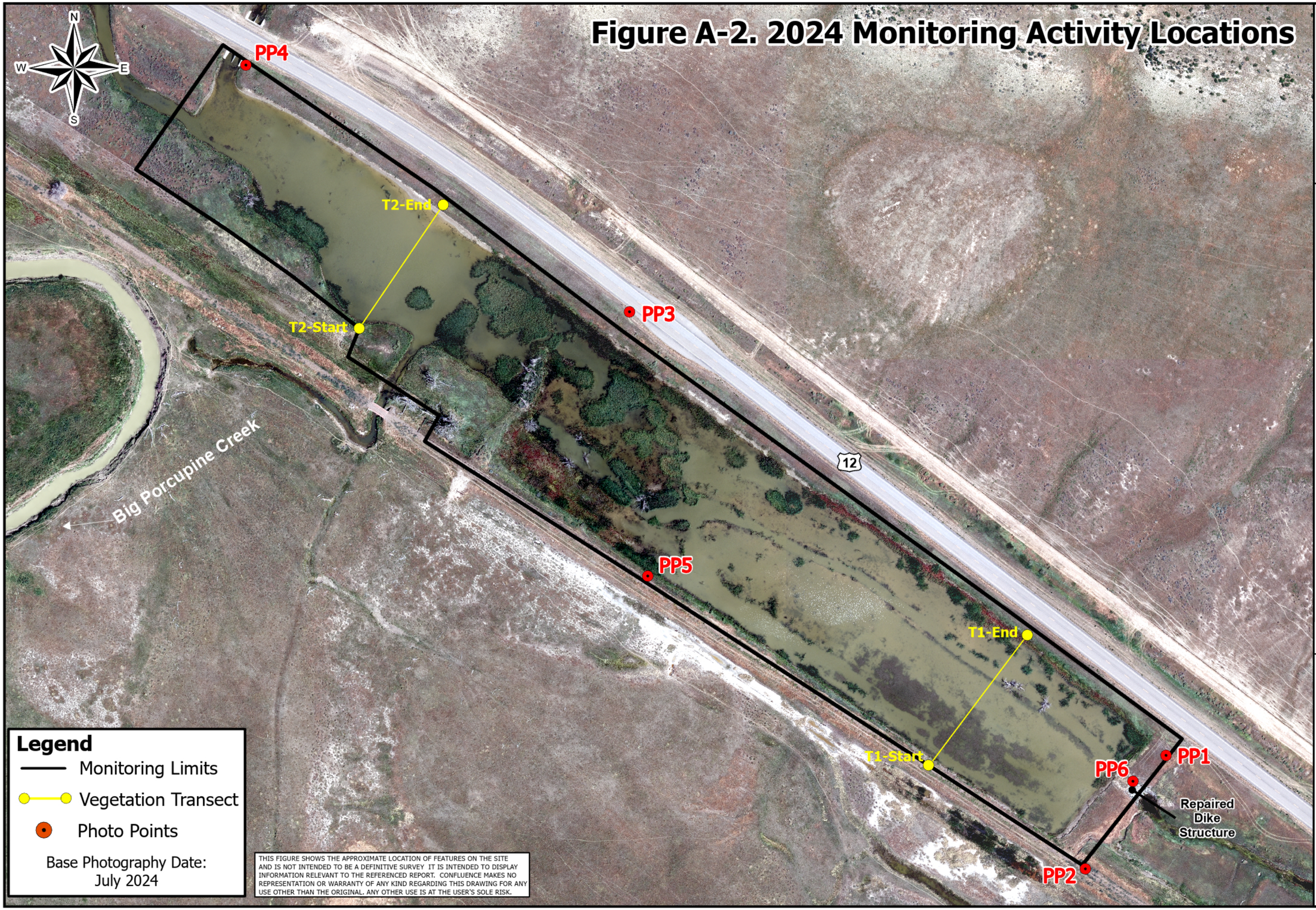
APPENDIX A
PROJECT AREA MAPS

MDT Wetland Mitigation Monitoring
Forsyth Northwest – West, Middle, and East Sites
Rosebud County, Montana

Figure A-2. 2024 Monitoring Activity Locations



Legend

- Monitoring Limits
- Vegetation Transect
- Photo Points

Base Photography Date:
July 2024

THIS FIGURE SHOWS THE APPROXIMATE LOCATION OF FEATURES ON THE SITE AND IS NOT INTENDED TO BE A DEFINITIVE SURVEY IT IS INTENDED TO DISPLAY INFORMATION RELEVANT TO THE REFERENCED REPORT. CONFLUENCE MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND REGARDING THIS DRAWING FOR ANY USE OTHER THAN THE ORIGINAL. ANY OTHER USE IS AT THE USER'S SOLE RISK.

CONFLUENCE CONSULTING

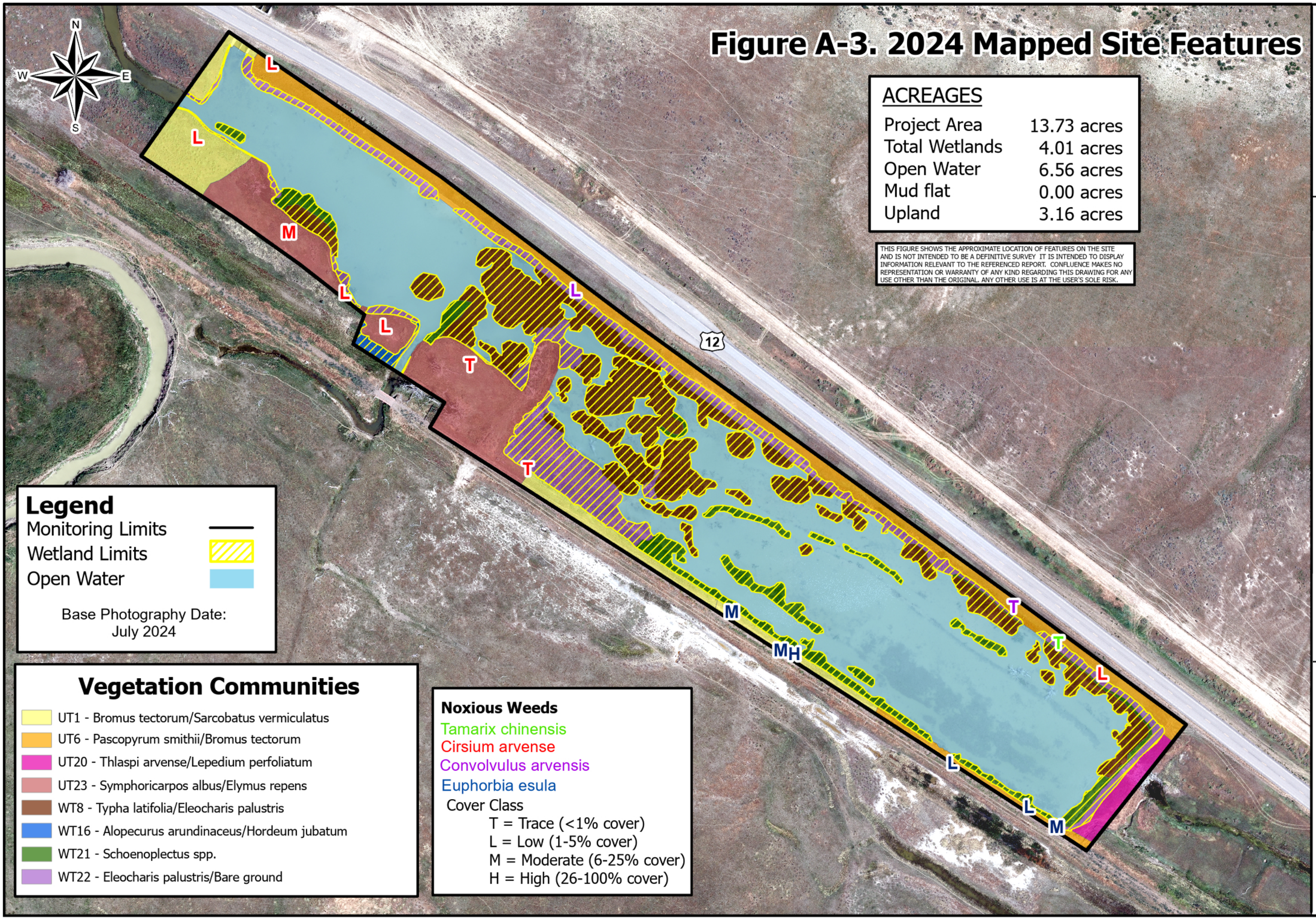
Forsyth NW - West Site
2024 Monitoring Activity Locations

0 65 130 260 390 520 650 Feet

Project:	STTP 14(9)259
Location:	Rosebud Co., Montana
Map Date:	September 23, 2024
Project Manager:	R. McEldowney
Drawn By:	EIR

File: X:\Project\MDT Wetland Mitigation 2\ArcGIS Pro\Forsyth\ForsythWest\ForsythWest.aprx

Figure A-3. 2024 Mapped Site Features



ACREAGES	
Project Area	13.73 acres
Total Wetlands	4.01 acres
Open Water	6.56 acres
Mud flat	0.00 acres
Upland	3.16 acres

THIS FIGURE SHOWS THE APPROXIMATE LOCATION OF FEATURES ON THE SITE AND IS NOT INTENDED TO BE A DEFINITIVE SURVEY IT IS INTENDED TO DISPLAY INFORMATION RELEVANT TO THE REFERENCED REPORT. CONFLUENCE MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND REGARDING THIS DRAWING FOR ANY USE OTHER THAN THE ORIGINAL. ANY OTHER USE IS AT THE USER'S SOLE RISK.

Legend

Monitoring Limits

Wetland Limits

Open Water

Base Photography Date:
July 2024

Vegetation Communities

- UT1 - Bromus tectorum/Sarcobatus vermiculatus
- UT6 - Pascopyrum smithii/Bromus tectorum
- UT20 - Thlaspi arvense/Lepedium perfoliatum
- UT23 - Symphoricarpos albus/Elymus repens
- WT8 - Typha latifolia/Eleocharis palustris
- WT16 - Alopecurus arundinaceus/Hordeum jubatum
- WT21 - Schoenoplectus spp.
- WT22 - Eleocharis palustris/Bare ground

Noxious Weeds

Tamarix chinensis
Cirsium arvense
Convolvulus arvensis
Euphorbia esula

Cover Class

T = Trace (<1% cover)
L = Low (1-5% cover)
M = Moderate (6-25% cover)
H = High (26-100% cover)

CONFLUENCE CONSULTING

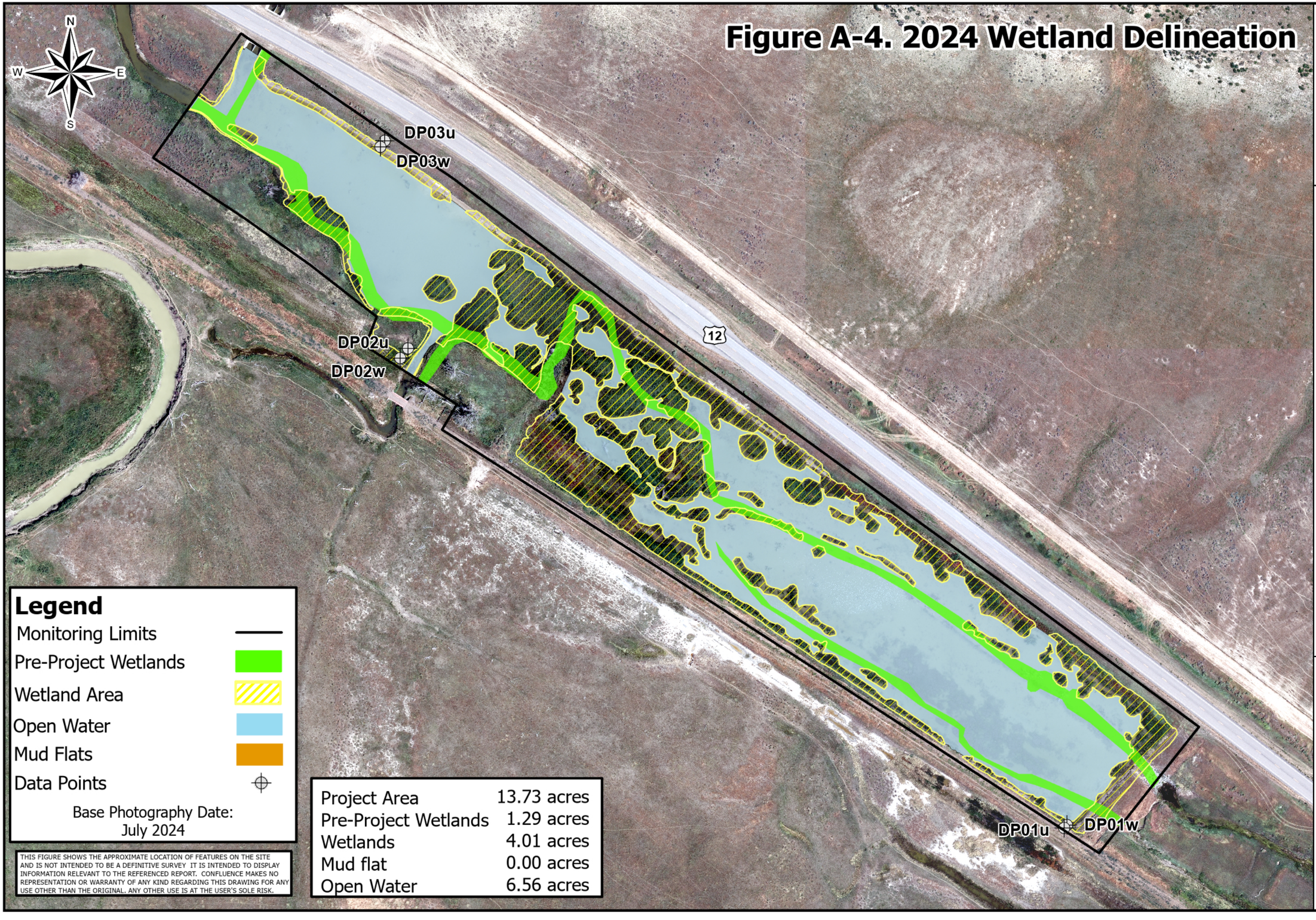
Forsyth NW - West Site
2024 Mapped Site Features

0 65 130 260 390 520 650 Feet

Project: STTP 14(9)259
Location: Rosebud Co., Montana
Map Date: September 23, 2024
Project Manager: R. McEldowney
Drawn By: EIR

File: X:\Project\MDT Wetland Mitigation 2\ArcGIS Pro\Forsyth\ForsythWest\ForsythWest.aprx

Figure A-4. 2024 Wetland Delineation



Legend

- Monitoring Limits
- Pre-Project Wetlands
- Wetland Area
- Open Water
- Mud Flats
- Data Points

Base Photography Date:
July 2024

Project Area	13.73 acres
Pre-Project Wetlands	1.29 acres
Wetlands	4.01 acres
Mud flat	0.00 acres
Open Water	6.56 acres

CONFLUENCE CONSULTING

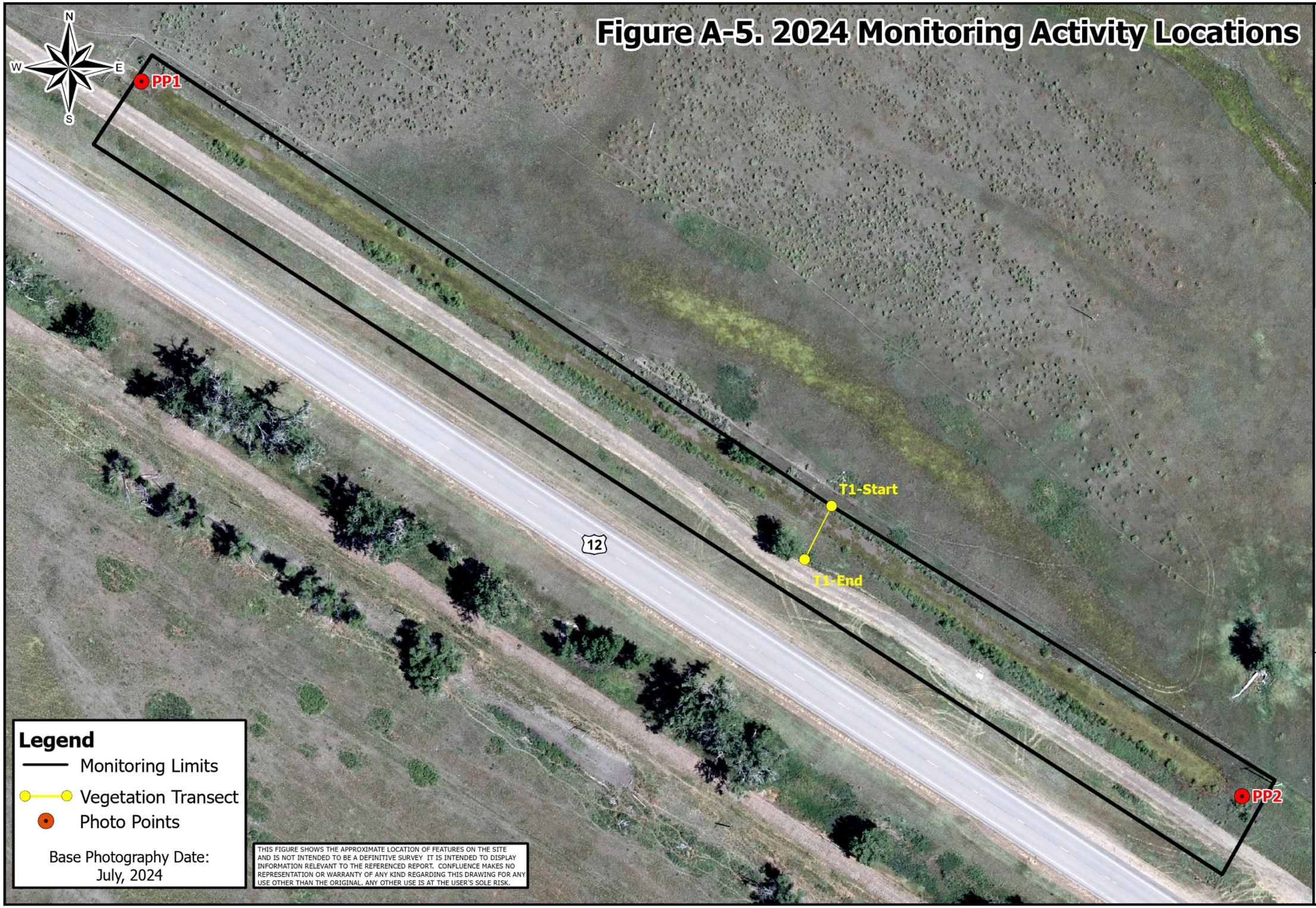
Forsyth NW - West Site
2024 Wetland Delineation

0 65 130 260 390 520 650 Feet

Project: STTP 14(9)259
Location: Rosebud Co., Montana
Map Date: September 23, 2024
Project Manager: R. McEldowney
Drawn By: EIR

File: X:\Project\MDT Wetland Mitigation 2\ArcGIS Pro\Forsyth\ForsythWest\ForsythWest.aprx

Figure A-5. 2024 Monitoring Activity Locations



Legend

- Monitoring Limits
- Vegetation Transect
- Photo Points

Base Photography Date: July, 2024

THIS FIGURE SHOWS THE APPROXIMATE LOCATION OF FEATURES ON THE SITE AND IS NOT INTENDED TO BE A DEFINITIVE SURVEY IT IS INTENDED TO DISPLAY INFORMATION RELEVANT TO THE REFERENCED REPORT. CONFLUENCE MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND REGARDING THIS DRAWING FOR ANY USE OTHER THAN THE ORIGINAL. ANY OTHER USE IS AT THE USER'S SOLE RISK.

CONFLUENCE CONSULTING

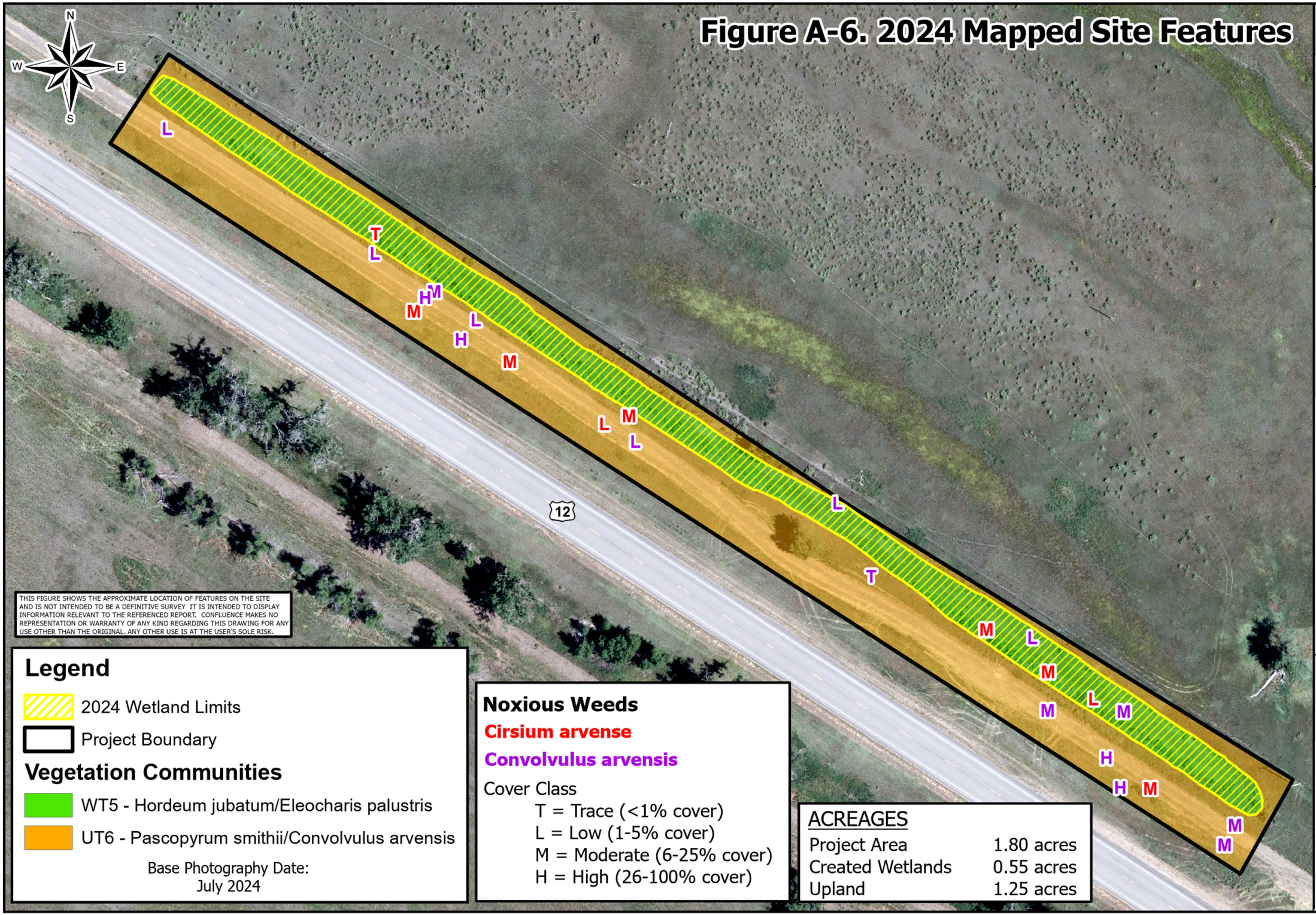
Forsyth NW - Middle Site
2024 Monitoring Activity Locations

0 37.5 75 150 225 300 Feet

Project: STTP 14(9)259
Location: Rosebud Co., Montana
Map Date: September 18, 2024
Project Manager: R. McEldowney
Drawn By: EIR

File: X:\Project\MDT Wetland Mitigation 2\ArcGIS Pro\Forsyth\ForsythMiddle\ForsythMiddle.aprx

Figure A-6. 2024 Mapped Site Features



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Legend

- 2024 Wetland Limits
- Project Boundary

Vegetation Communities

- WT5 - Hordeum jubatum/Eleocharis palustris
- UT6 - Pascopyrum smithii/Convolvulus arvensis

Base Photography Date:
July 2024

Noxious Weeds

Cirsium arvense

Convolvulus arvensis

Cover Class

T = Trace (<1% cover)
L = Low (1-5% cover)
M = Moderate (6-25% cover)
H = High (26-100% cover)

ACREAGES	
Project Area	1.80 acres
Created Wetlands	0.55 acres
Upland	1.25 acres

CONFLUENCE CONSULTING

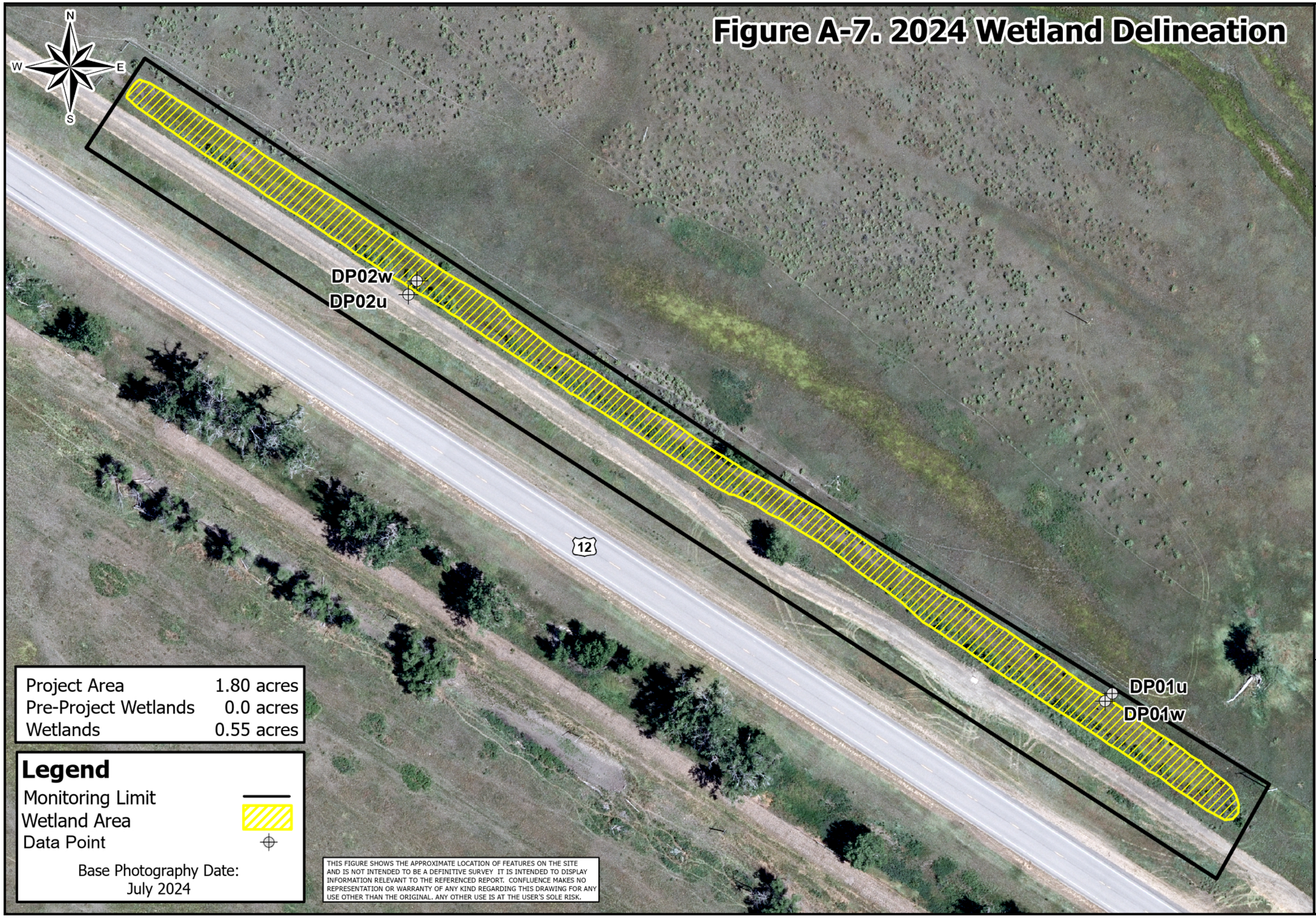
Forsyth NW - Middle Site
2024 Mapped Site Features

0 37.5 75 150 225 300 Feet

Project: STTP 14(9)259
Location: Rosebud Co., Montana
Map Date: September 18, 2024
Project Manager: R. McEldowney
Drawn By: EIR

File: X:\Project\MDT Wetland Mitigation 2\ArcGIS Pro\Forsyth\ForsythMiddle\ForsythMiddle.aprx

Figure A-7. 2024 Wetland Delineation



Project Area	1.80 acres
Pre-Project Wetlands	0.0 acres
Wetlands	0.55 acres

Legend

Monitoring Limit

Wetland Area

Data Point

Base Photography Date:
July 2024

THIS FIGURE SHOWS THE APPROXIMATE LOCATION OF FEATURES ON THE SITE AND IS NOT INTENDED TO BE A DEFINITIVE SURVEY IT IS INTENDED TO DISPLAY INFORMATION RELEVANT TO THE REFERENCED REPORT. CONFLUENCE MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND REGARDING THIS DRAWING FOR ANY USE OTHER THAN THE ORIGINAL. ANY OTHER USE IS AT THE USER'S SOLE RISK.

CONFLUENCE CONSULTING

Forsyth NW - Middle Site
2024 Wetland Delineation

0 37.5 75 150 225 300 Feet

Project: STTP 14(9)259

Location: Rosebud Co., Montana

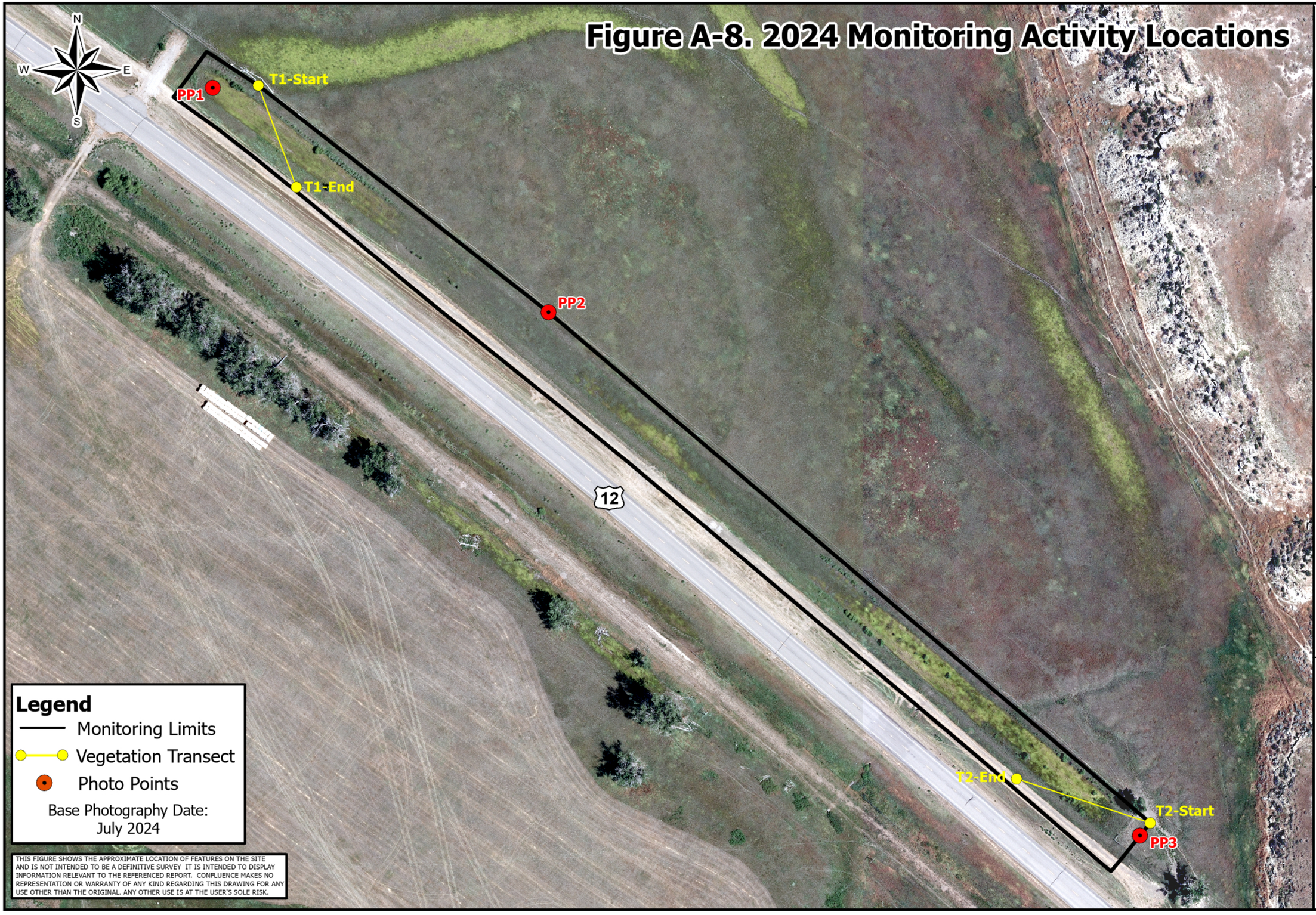
Map Date: September 18, 2024

Project Manager: R. McEldowney

Drawn By: EIR

File: X:\Project\MDT Wetland Mitigation 2\ArcGIS Pro\Forsyth\ForsythMiddle\ForsythMiddle.aprx

Figure A-8. 2024 Monitoring Activity Locations



Legend

- Monitoring Limits
- Vegetation Transect
- Photo Points

Base Photography Date: July 2024

THIS FIGURE SHOWS THE APPROXIMATE LOCATION OF FEATURES ON THE SITE AND IS NOT INTENDED TO BE A DEFINITIVE SURVEY IT IS INTENDED TO DISPLAY INFORMATION RELEVANT TO THE REFERENCED REPORT. CONFLUENCE MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND REGARDING THIS DRAWING FOR ANY USE OTHER THAN THE ORIGINAL. ANY OTHER USE IS AT THE USER'S SOLE RISK.

CONFLUENCE CONSULTING

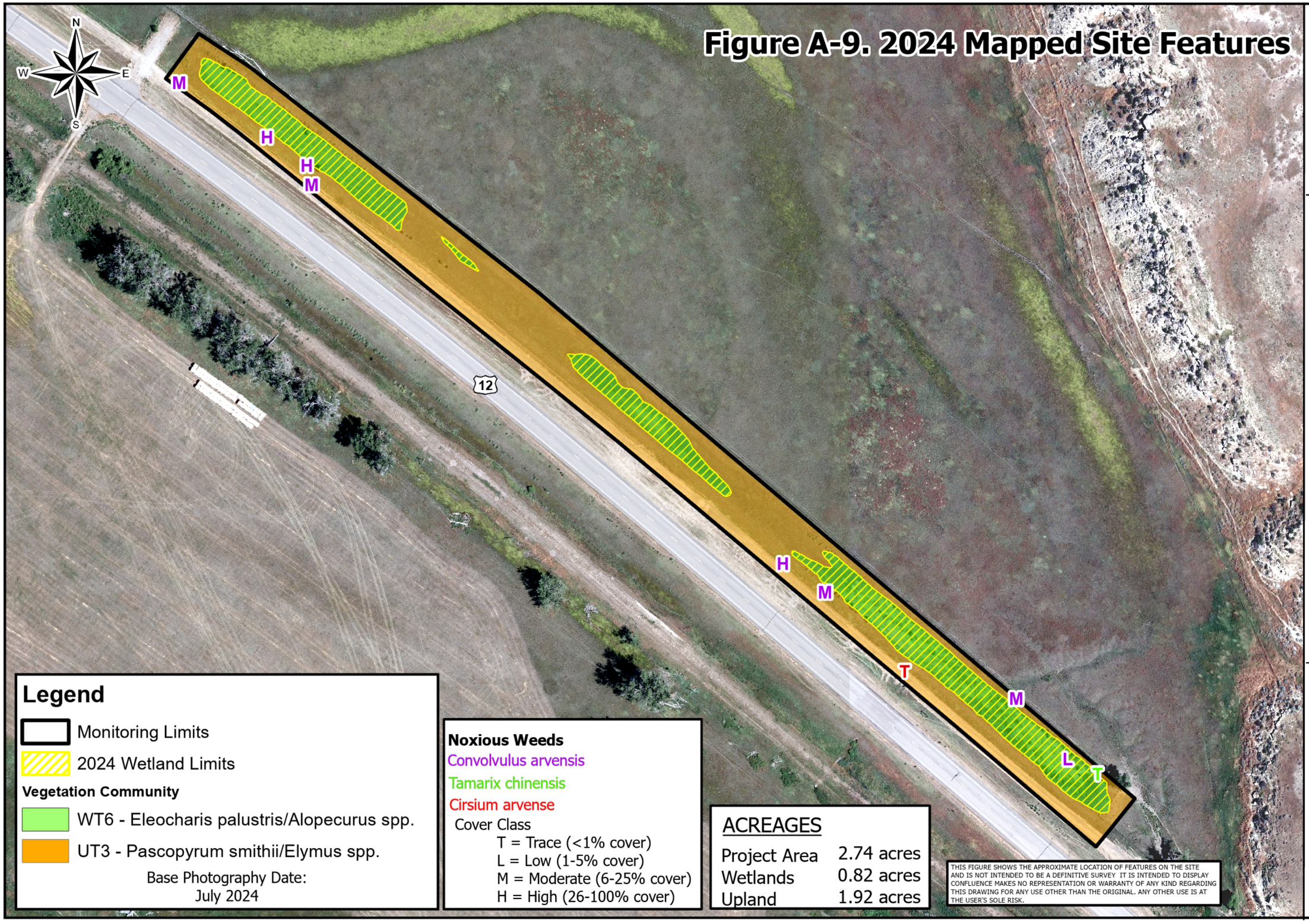
Forsyth NW - East Site
2024 Monitoring Activity Locations

0 50 100 200 300 400 500 Feet

Project: STTP 14(9)259
Location: Rosebud Co., Montana
Map Date: September 17, 2024
Project Manager: R. McEldowney
Drawn By: EIR

File: X:\Project\MDT Wetland Mitigation 2\ArcGIS Pro\Forsyth\ForsythEast\ForsythEast.aprx

Figure A-9. 2024 Mapped Site Features



Legend

- Monitoring Limits
- 2024 Wetland Limits

Vegetation Community

- WT6 - Eleocharis palustris/Alopecurus spp.
- UT3 - Pascopyrum smithii/Elymus spp.

Base Photography Date:
July 2024

Noxious Weeds

Convolvulus arvensis
Tamarix chinensis
Cirsium arvense

Cover Class
T = Trace (<1% cover)
L = Low (1-5% cover)
M = Moderate (6-25% cover)
H = High (26-100% cover)

ACREAGES

Project Area	2.74 acres
Wetlands	0.82 acres
Upland	1.92 acres

THIS FIGURE SHOWS THE APPROXIMATE LOCATION OF FEATURES ON THE SITE AND IS NOT INTENDED TO BE A DEFINITIVE SURVEY IT IS INTENDED TO DISPLAY CONFLUENCE MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND REGARDING THIS DRAWING FOR ANY USE OTHER THAN THE ORIGINAL. ANY OTHER USE IS AT THE USER'S SOLE RISK.

CONFLUENCE CONSULTING

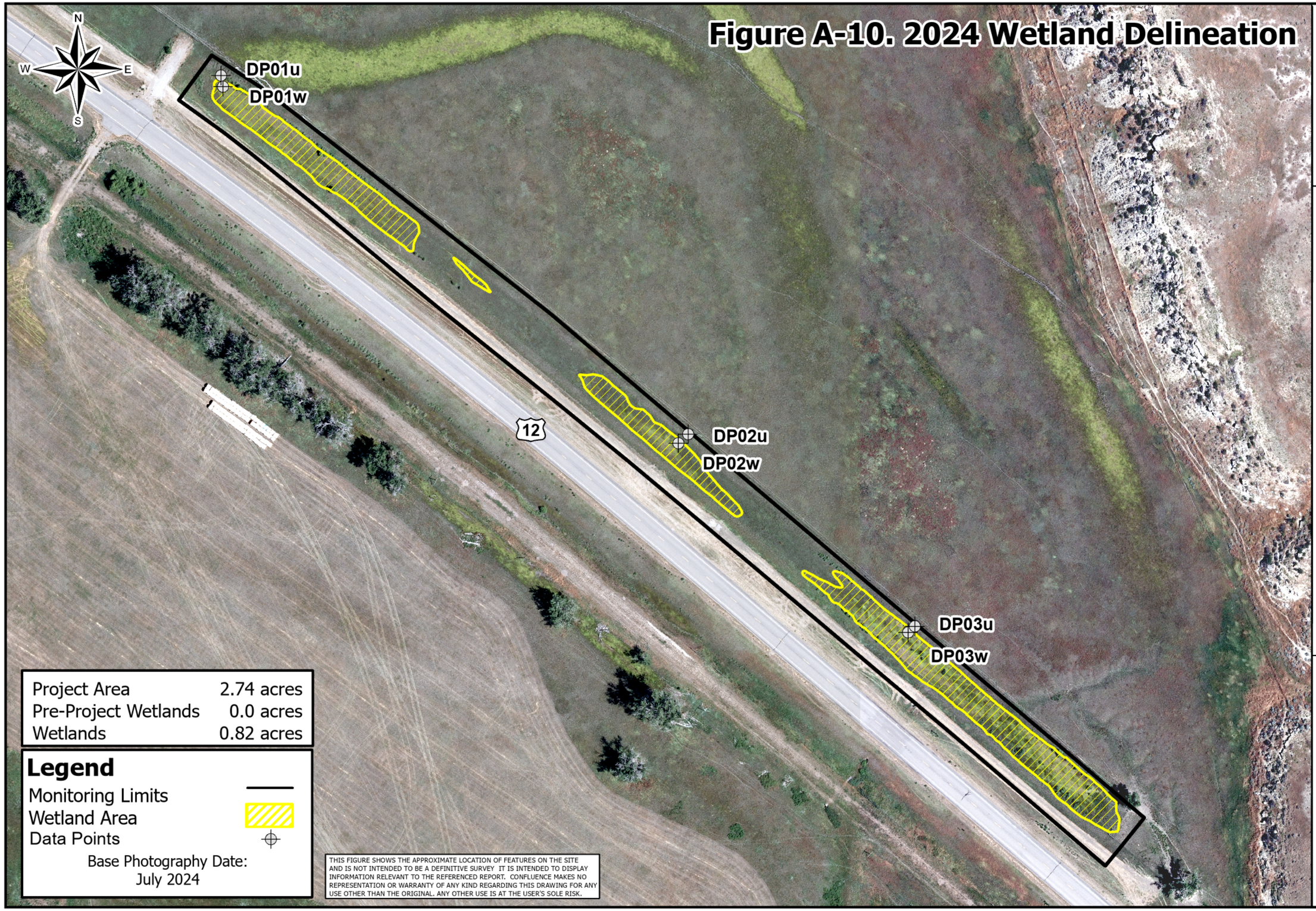
Forsyth NW - East Site
2024 Mapped Site Features

0 62.5 125 250 375 500 Feet

Project: STTP 14(9)259
Location: Rosebud Co., Montana
Map Date: September 17, 2024
Project Manager: R. McEldowney
Drawn By: EIR

File: X:\Project\MDT Wetland Mitigation 2\ArcGIS Pro\Forsyth\ForsythEast\ForsythEast.aprx

Figure A-10. 2024 Wetland Delineation



Project Area	2.74 acres
Pre-Project Wetlands	0.0 acres
Wetlands	0.82 acres

Legend

Monitoring Limits

Wetland Area

Data Points

Base Photography Date:
July 2024

THIS FIGURE SHOWS THE APPROXIMATE LOCATION OF FEATURES ON THE SITE AND IS NOT INTENDED TO BE A DEFINITIVE SURVEY IT IS INTENDED TO DISPLAY INFORMATION RELEVANT TO THE REFERENCED REPORT. CONFLUENCE MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND REGARDING THIS DRAWING FOR ANY USE OTHER THAN THE ORIGINAL. ANY OTHER USE IS AT THE USER'S SOLE RISK.

CONFLUENCE CONSULTING

Forsyth NW - East Site
2024 Wetland Delineation

0 50 100 200 300 400 500 Feet

Project: STTP 14(9)259

Location: Rosebud Co., Montana

Date: September 17, 2024

Project Manager: R. McEldowney

Drawn By: EIR

File: X:\Project\MDT Wetland Mitigation 2\ArcGIS Pro\Forsyth\ForsythEast\ForsythEast.aprx

APPENDIX B
MONITORING FORMS

MDT Wetland Mitigation Monitoring
Forsyth Northwest – West, Middle, and East Sites
Rosebud County, Montana

MDT WETLAND MITIGATION SITE MONITORING FORM

Project Site: Forsyth NW - West Assessment Date/Time 6/11/2024

Person(s) conducting the assessment: R. McEldowney, E. Reynaud

Weather: Sunny, 75 degrees F Location: ~15 miles NW of Forsyth

MDT District: Glendive Milepost: RP 280 on US 12

Legal Description: T 7N R 39E Section(s) 20 & 29

Initial Evaluation Date: 8/15/2013 Monitoring Year: 12 #Visits in Year: 1

Size of Evaluation Area: 13.71 (acres)

Land use surrounding wetland:

Agriculture, grazing, US 12 highway

HYDROLOGY

Surface Water Source: Big Porcupine Cr., E.Spring Coulee, runoff, seasonally high ground water.

Inundation: ☑ Average Depth: 2 **(ft)** Range of Depths: 0.5-4 **(ft)**

Percent of assessment area under inundation: 85 %

Depth at emergent vegetation-open water boundary: 2 **(ft)**

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

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

Majority of the wetland area inundated in 2024. Mudflats around the open water were present but minimal. Banks on the SE edge of the site are being eroded by wind-generated waves. Water was flowing over the dike during the 2024 site visit.

Groundwater Monitoring Wells

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

Additional Activities Checklist:

☐ Map emergent vegetation-open water boundary on aerial photograph.

☑ Observe extent of surface water during each site visit and look for evidence of past surface water elevations (drift lines, erosion, vegetation staining, etc.)

☐ Use GPS to survey groundwater monitoring well locations, if present.

Hydrology Notes:

Hydrologic sources include Big Porcupine Creek, East Spring Coulee, and a high water table.

Mitigation area receives surface water from East Spring Creek Coulee and periodic flooding of Big Porcupine Creek. The majority of the site was inundated during the 2024 site visit and average water depth was estimated to be 18-24". The site supports extended periods of inundation as is evidenced by drowned woody vegetation, absence of herbaceous vegetation around the edges of the open water, and the development of a Schoenoplectus spp./Typha spp. community.

VEGETATION COMMUNITIES

Site Forsyth NW - West

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

Community # 1 **Community Type:** Bromus tectorum / Sarcobatus vermiculatus **Acres:** 0.73

Species	Cover class	Species	Cover class
Bare Ground	2	Bassia scoparia	1
Bromus inermis	2	Bromus tectorum	2
Chenopodium album	1	Elymus repens	2
Euphorbia esula	1	Galium triflorum	0
Hordeum jubatum	1	Opuntia polyacantha	0
Pascopyrum smithii	2	Poa pratensis	2
Sarcobatus vermiculatus	2	Schedonorus pratensis	2
Thlaspi arvense	1	Yucca glauca	0

Comments:

Community type in the NW region of the site. No significant changes in composition in 2024.

Community # 6 **Community Type:** Pascopyrum smithii / Bromus tectorum **Acres:** 1.04

Species	Cover class	Species	Cover class
Achnatherum hymenoides	1	Agropyron cristatum	0
Bare Ground	2	Bassia scoparia	1
Bromus arvensis	1	Bromus japonicus	2
Bromus tectorum	1	Chenopodium album	1
Convolvulus arvensis	0	Elymus canadensis	1
Elymus lanceolatus	1	Elymus trachycaulus	2
Euphorbia esula	0	Helianthus annuus	0
Hordeum jubatum	0	Lactuca serriola	1
Lepidium perfoliatum	1	Linum lewisii	1
Medicago sativa	0	Melilotus officinalis	2
Pascopyrum smithii	5	Poa pratensis	3
Rumex crispus	0	Sisymbrium altissimum	1
Thlaspi arvense	2	Tragopogon dubius	0

Comments:

Majority of the vegetation community is composed of Pascopyrum smithii. Convolvulus arvensis observed in community in 2024.

Community # 8 **Community Type:** Typha latifolia / Eleocharis palustris **Acres:** 2.00

Species	Cover class	Species	Cover class
Eleocharis palustris	0	Open Water	2
Populus deltoides	0	Schoenoplectus acutus	0
Schoenoplectus maritimus	1	Sonchus arvensis	1
Spartina pectinata	1	Typha angustifolia	3
Typha latifolia	4		

Comments:

CT8 has increased significantly in 2024 due to continued inundation in the majority of the site. Existing stands have grown in addition to new patches.

Community # 16 **Community Type:** Alopecurus arundinaceus / Hordeum jubatum **Acres:** 0.05

Species	Cover class	Species	Cover class
Alopecurus arundinaceus	4	Bare Ground	1
Cirsium arvense	0	Eleocharis lanceolata	0
Elymus repens	1	Glycyrrhiza lepidota	0
Hordeum jubatum	2	Pascopyrum smithii	0
Poa compressa	1	Rumex crispus	1
Sagittaria cuneata	1		

Comments:

Community stayed the same besides a slight increase in Elymus repens cover.

Community # 17 **Community Type:** Open Water / Aquatic macrophytes **Acres:** 6.56

Species	Cover class	Species	Cover class
Aquatic macrophytes	0	Bare Ground	1
Eleocharis palustris	0	Open Water	5
Schedonorus pratensis	0	Schoenoplectus maritimus	1
Typha angustifolia	1	Typha latifolia	1

Comments:

Open water increased in 2024 despite encroaching Typha latifolia cover likely due to decreasing WT21 cover.

Community # 20 **Community Type:** Thlaspi arvense / Lepidium perfoliatum **Acres:** 0.14

Species	Cover class	Species	Cover class
Bare Ground	2	Bromus tectorum	2
Chenopodium album	2	Lepidium perfoliatum	4
Pascopyrum smithii	2	Sarcobatus vermiculatus	0
Thlaspi arvense	2		

Comments:

Community type on SE end of project area.

Community # 21 **Community Type:** Schoenoplectus spp. / Open Water **Acres:** 0.69

Species	Cover class	Species	Cover class
Open Water	5	Schoenoplectus maritimus	4

Comments:

Schoenoplectus spp. has increased in 2024 around the edges of the open water, primarily in the SE region of the site.

Community # 22 **Community Type:** Eleocharis palustris / Bare Ground **Acres:** 1.27

Species	Cover class	Species	Cover class
Bare Ground	4	Carex sp.	0
Chenopodium album	2	Distichlis spicata	1
Eleocharis palustris	3	Elymus trachycaulus	0
Hordeum jubatum	1	Iva axillaris	1
Lactuca serriola	0	Open Water	1
Pascopyrum smithii	1	Poa pratensis	0
Polygonum aviculare	0	Populus deltoides	0
Puccinellia nuttalliana	2	Rumex crispus	0
Salicornia rubra	0	Schoenoplectus maritimus	1
Spartina pectinata	0	Typha angustifolia	2
Typha latifolia	1		

Comments:

CT22 has increased in cover along the edges of the open water in addition to establishing patches further out into the water.

Community # 23 **Community Type:** Symphoricarpos albus / Elymus repens **Acres:** 1.25

Species	Cover class	Species	Cover class
Alopecurus arundinaceus	2	Bare Ground	1
Bassia scoparia	0	Bromus inermis	1
Carex sp.	0	Chenopodium album	1
Cirsium arvense	2	Eleocharis lanceolata	0
Elymus repens	3	Glycyrrhiza lepidota	2
Hordeum jubatum	1	Iva axillaris	2
Lepidium perfoliatum	2	Pascopyrum smithii	1
Poa compressa	2	Poa pratensis	3
Ribes aureum	1	Sarcobatus vermiculatus	1
Symphoricarpos albus	3	Thlaspi arvense	2

Comments:

Community cover has increased in the NW portion of the site.

Total Vegetation Community Acreage **13.73**

VEGETATION TRANSECTS

Site: Forsyth NW - West Date: 6/11/2024

Transect Number: 1 **Compass Direction from Start:** 25

Interval Data:

Ending Station 11 Community Type: Pascopyrum smithii / Bromus tectorum

Species	Cover class	Species	Cover class
Bare Ground	1	Bromus tectorum	3
Euphorbia esula	2	Medicago sativa	1
Pascopyrum smithii	3	Poa pratensis	3
Rumex crispus	0	Sisymbrium altissimum	1

Ending Station 264 Community Type: Aquatic macrophytes / Open Water

Species	Cover class	Species	Cover class
Open Water	5	Schoenoplectus maritimus	0
Typha latifolia	2		

Ending Station 282 Community Type: Pascopyrum smithii / Bromus tectorum

Species	Cover class	Species	Cover class
Bare Ground	1	Chenopodium album	1
Elymus trachycaulus	1	Lactuca serriola	0
Lepidium perfoliatum	2	Open Water	2
Pascopyrum smithii	2	Poa pratensis	0
Rumex crispus	5	Schoenoplectus maritimus	1
Thlaspi arvense	1		

Transect Notes:

Majority of this transect was inundated during the 2024 monitoring event. Increase in Typha latifolia reflected in T-1 observations.

Transect Number: 2 **Compass Direction from Start:** 25

Interval Data:

Ending Station 7 Community Type: Symphoricarpos albus / Elymus repens

Species	Cover class	Species	Cover class
Bare Ground	1	Elymus repens	5
Glycyrrhiza lepidota	2	Iva axillaris	2
Pascopyrum smithii	0	Poa pratensis	2
Rumex crispus	1	Symphoricarpos albus	0

Ending Station 236 Community Type: Aquatic Macrophytes / Open Water

Species	Cover class	Species	Cover class
Open Water	5	Rumex crispus	1
Schoenoplectus maritimus	1	Typha angustifolia	0

Ending Station 261 Community Type: Pascopyrum smithii / Bromus tectorum

Species	Cover class	Species	Cover class
Bare Ground	1	Bromus arvensis	0
Bromus tectorum	1	Chenopodium album	1
Elymus lanceolatus	1	Elymus trachycaulus	1
Lepidium perfoliatum	3	Nassella viridula	0
Pascopyrum smithii	2	Poa pratensis	3
Sisymbrium altissimum	0		

Transect Notes:

Consistent inundation has led to open water (CT17) covering the majority of T-2.

PLANTED WOODY VEGETATION SURVIVAL

Forsyth NW - West

Comments

No woody vegetation planted at site. Natural recruitment of cottonwoods and willows is occurring sparsely on the southern border of the site.

Forsyth NW - West

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 Bittern	1	F	
American Coot	3	F	
Bald Eagle	1	FO	
Cliff Swallow	100+	FO	
Common Nighthawk	2	FO	
Common Yellowthroat	1	L	
Ferruginous Hawk	1	FO	
Greater Yellowlegs	14	F	
Green-winged Teal	5	F	
Mallard	16	F, L	OW, MA
Marbled Godwit	3	F	
Mourning Dove	2	L	
Red-winged Blackbird	15	FO, L	
Rock Wren	1	L	
Western Meadowlark	2	L	
Western Sandpiper	8	F	
Yellow-headed Blackbird	2	L	

Bird Comments

In 2024, 17 bird species were observed. The following species listed above were observed by MDT during their October site visit: American Bittern, Ferruginous Hawk, Greater Yellowlegs, Green-winged Teal, Marbled Godwit, Western Sandpiper, and twelve of the sixteen Mallards. The remaining species were observed by Confluence Consulting during the June site visit.

BEHAVIOR CODES

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

HABITAT CODES

AB = Aquatic bed **SS** = Scrub/Shrub **FO** = Forested **UP** = Upland buffer **I** = Island

WM = Wet meadow **MA** = Marsh **US** = Unconsolidated shore **MF** = Mud Flat **OW** = Open Water

Mammals and Herptiles

Species	# Observed	Tracks	Scat	Burrows	Comments
Raccoon	2	Yes	No	No	Observed swimming
Turtle sp.	1	No	No	No	Observed swimming
Northern leopard frog	3	No	No	No	Observed on wetland edges
Prairie dog	1	No	No	No	Dead
Muskrat	1	No	No	No	Observed swimming
Mink	1	No	No	No	Seen hunting crayfish
Crayfish	-	No	No	No	Observed in open water pockets

Wildlife Comments:

A diversity of wildlife and bird species utilize this site. Mink and crayfish species were observed by MDT during their October site visit.

Forsyth NW - West

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	46.336531	-106.871973		
DP01w	46.336544	-106.871953		
DP02u	46.338868	-106.87628		
DP02w	46.338824	-106.876335		
DP03u	46.339839	-106.87639		
DP03w	46.339812	-106.876421		
PP-1	46.336914	-106.871132	270	Photo Point 1 (Pano):
PP-2	46.336468	-106.871811	350	Photo Point 2 (Pano):
PP-3	46.339088	-106.874611	230	Photo Point 3 (Pano):
PP-4	46.340237	-106.877312	210	Photo Point 4 (Pano):
PP-5	46.337817	-106.874587	45	Photo Point 5 (Pano):
PP-6	46.3368	-106.8714	300	Completed Dike:
PP-6a	46.3368	-106.8714	120	Completed Dike:
T-1 end	46.337456	-106.872063	205	Transect 1 end:
T-1 start	46.33691	-106.872772	25	Transect 1 start:
T-2 end	46.339561	-106.875854	205	Transect 2 end:
T-2 start	46.339001	-106.87645	25	Transect 2 start:

Comments:

Forsyth NW - West

ADDITIONAL ITEMS CHECKLIST

Hydrology

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

Photos

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

Vegetation

☑ Map vegetation community boundaries

☑ Complete Vegetation Transects

Soils

☑ Assess soils

Wetland Delineations

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

Wetland Delineation Comments

Open water has increased in 2024 due to consistent inundation.

Functional Assessments

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

Functional Assessment Comments:

Category II wetland.

Maintenance

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

If yes, do they need to be repaired?

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

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

into or out of the wetland? Yes

If yes, are the structures in need of repair? No

If yes, describe the problems below.

The dike appears to be functioning well. The south half of the dike as well as the embankment in the SE portion of the site were exhibiting erosion, likely caused by wind-generated waves. It is suggested that this be further evaluated. There is no immediate threat, but it should be monitored as the fenceline is now very close to the eroding areas.

MDT WETLAND MITIGATION SITE MONITORING FORM

Project Site: Forsyth NW - Middle Assessment Date/Time 6/10/2024

Person(s) conducting the assessment: R. McEldowney, E. Reynaud

Weather: Partly sunny, 75 degrees F Location: ~9 miles NW of Forsyth

MDT District: Glendive Milepost: ~262 on US 12

Legal Description: T 7N R 39E Section(s) 33

Initial Evaluation Date: 8/15/2013 Monitoring Year: 12 #Visits in Year: 1

Size of Evaluation Area: 1.8 (acres)

Land use surrounding wetland:

Rangeland adjacent to Highway 12.

HYDROLOGY

Surface Water Source: Precipitation, runoff, and overflow from ditch.

Inundation: ☑ Average Depth: 0.2 **(ft)** Range of Depths: 0-0.5 **(ft)**

Percent of assessment area under inundation: 40 %

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

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

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

Geomorphic position, surface water, soil saturation, hydrogen sulfide odor, high water table, and water-stained leaves.

Groundwater Monitoring Wells

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

Additional Activities Checklist:

☑ Map emergent vegetation-open water boundary on aerial photograph.

☑ Observe extent of surface water during each site visit and look for evidence of past surface water elevations (drift lines, erosion, vegetation staining, etc.)

☐ Use GPS to survey groundwater monitoring well locations, if present.

Hydrology Notes:

The site was inundated more during the 2024 monitoring visit than the previous year.

VEGETATION COMMUNITIES

Site Forsyth NW - Middle

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

Community # 5 **Community Type:** Hordeum jubatum / Eleocharis palustris **Acres:** 0.55

Species	Cover class	Species	Cover class
Bare Ground	2	Bromus arvensis	1
Chenopodium album	1	Cirsium arvense	2
Convolvulus arvensis	1	Deschampsia elongata	1
Eleocharis palustris	2	Elymus lanceolatus	1
Elymus repens	1	Elymus trachycaulus	2
Grindelia squarrosa	3	Hordeum jubatum	0
Juncus balticus	0	Lactuca serriola	3
Lepidium perfoliatum	0	Medicago sativa	0
Nassella viridula	1	Pascopyrum smithii	4
Poa compressa	2	Poa palustris	0
Poa pratensis	1	Populus deltoides	1
Puccinellia nuttalliana	1	Rumex crispus	0
Salix amygdaloides	1	Schedonorus pratensis	1
Schoenoplectus maritimus	1	Thlaspi arvense	0
Tragopogon dubius	1		

Comments:

The wetland community acreage decreased 0.03-acre in 2024. However, the vegetation species within the community stayed the same as in 2023.

Community # 6 **Community Type:** Pascopyrum smithii / Convolvulus arvensis **Acres:** 1.25

Species	Cover class	Species	Cover class
Bare Ground	2	Bromus arvensis	2
Bromus inermis	2	Bromus japonicus	0
Bromus tectorum	0	Chenopodium album	1
Cirsium arvense	2	Convolvulus arvensis	3
Elymus canadensis	1	Elymus elymoides	1
Elymus trachycaulus	1	Grindelia squarrosa	2
Hordeum jubatum	0	Iva axillaris	4
Juncus balticus	0	Lactuca serriola	2
Linum lewisii	1	Melilotus officinalis	0
Pascopyrum smithii	4	Poa palustris	0
Poa pratensis	4	Populus deltoides	1
Ratibida columnifera	1	Rosa woodsii	2
Rumex crispus	0	Sarcobatus vermiculatus	1
Schedonorus pratensis	1	Symphoricarpos albus	2
Taraxacum officinale	0	Thlaspi arvense	0
Tragopogon dubius	1		

Comments:

Upland community surrounding wetland swale. Poa pratensis and Iva axillaris cover increased while all other species stayed the same.

Total Vegetation Community Acreage **1.8**

VEGETATION TRANSECTS

Site: Forsyth NW - Middle Date: 6/10/2024

Transect Number: 1 **Compass Direction from Start:** 205

Interval Data:

Ending Station 13 Community Type: Pascopyrum smithii / Convolvulus arvensis

Species	Cover class	Species	Cover class
Bare Ground	2	Bromus tectorum	1
Chenopodium album	2	Elymus canadensis	2
Iva axillaris	1	Juncus balticus	1
Panicum virgatum	3	Pascopyrum smithii	4
Schedonorus pratensis	0	Taraxacum officinale	0
Thlaspi arvense	1		

Ending Station 31 Community Type: Hordeum jubatum / Eleocharis palustris

Species	Cover class	Species	Cover class
Bare Ground	2	Eleocharis palustris	5
Juncus balticus	2	Pascopyrum smithii	3

Ending Station 50 Community Type: Pascopyrum smithii / Convolvulus arvensis

Species	Cover class	Species	Cover class
Bare Ground	3	Bromus inermis	0
Eleocharis palustris	0	Pascopyrum smithii	3
Poa pratensis	5	Populus deltoides	4
Symphoricarpos albus	2		

Transect Notes:

Inundation in 2024 has led to a decrease in species diversity and movement towards a monoculture of Eleocharis palustris in the wetland community.

PLANTED WOODY VEGETATION SURVIVAL

Forsyth NW - Middle

Comments

No planted woody vegetation. Young volunteer cottonwoods and willows are becoming more common around edge of wetland.

Forsyth NW - Middle

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
Red-winged Blackbird	2	L	
Western Meadowlark	1	L	
Yellow Warbler	1	F	

Bird Comments

Three bird species were observed in 2024.

BEHAVIOR CODES

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

HABITAT CODES

AB = Aquatic bed **SS** = Scrub/Shrub **FO** = Forested **UP** = Upland buffer **I** = Island

WM = Wet meadow **MA** = Marsh **US** = Unconsolidated shore **MF** = Mud Flat **OW** = Open Water

Mammals and Herptiles

Species	# Observed	Tracks	Scat	Burrows	Comments
Tadpoles	5	No	No	No	Observed in inundated portion of site

Wildlife Comments:

Frog tadpoles were the only wildlife observed during the 2024 monitoring visit.

Forsyth NW - Middle

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	46.323377	-106.843567		
DP01w	46.323405	-106.84354		
DP02u	46.322501	-106.841502		
DP02w	46.322486	-106.841524		
PP-1	46.322174	-106.840996	300	Photo Point 1:
PP-2	46.323803	-106.844337	120	Photo Point 2:
T-1 end	46.322754	-106.842438	25	Transect 1 end:
T-1 start	46.322948	-106.842323	205	Transect 1 start:

Comments:

Forsyth NW - Middle

ADDITIONAL ITEMS CHECKLIST

Hydrology

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

Photos

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

Vegetation

☑ Map vegetation community boundaries

☑ Complete Vegetation Transects

Soils

☑ Assess soils

Wetland Delineations

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

Wetland Delineation Comments

0.55 acres of wetlands delineated in 2024.

Functional Assessments

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

Functional Assessment Comments:

Category 3 wetland.

Maintenance

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

If yes, do they need to be repaired?

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

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

into or out of the wetland? No

If yes, are the structures in need of repair?

If yes, describe the problems below.

N/A.

MDT WETLAND MITIGATION SITE MONITORING FORM

Project Site: Forsyth NW - East Assessment Date/Time 6/10/2024

Person(s) conducting the assessment: R. McEldowney, E. Reynaud

Weather: Partly sunny, 75 degrees F Location: ~8 miles NW of Forsyth

MDT District: Glendive Milepost: ~262.3 on US 12

Legal Description: T 7N R 39E Section(s) 34

Initial Evaluation Date: 8/15/2013 Monitoring Year: 12 #Visits in Year: 1

Size of Evaluation Area: 2.74 (acres)

Land use surrounding wetland:

Agriculture and US Highway 12.

HYDROLOGY

Surface Water Source: Precipitation, runoff, flooding from Big Porcupine Creek

Inundation: ☑ Average Depth: 0.16 **(ft)** Range of Depths: 0-0.3 **(ft)**

Percent of assessment area under inundation: 80 %

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

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

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

Surface water, saturated to surface, geomorphic position, high water table, and hydrogen sulfide odor.

Groundwater Monitoring Wells

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

Additional Activities Checklist:

☐ Map emergent vegetation-open water boundary on aerial photograph.

☑ Observe extent of surface water during each site visit and look for evidence of past surface water elevations (drift lines, erosion, vegetation staining, etc.)

☐ Use GPS to survey groundwater monitoring well locations, if present.

Hydrology Notes:

Site was slightly inundated during 2024 monitoring visit. The SE part of the site was dry and got increasingly wetter moving to the NW part of the site.

VEGETATION COMMUNITIES

Site Forsyth NW - East

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

Community # 3 **Community Type:** Pascopyrum smithii / Elymus spp. **Acres:** 1.94

Species	Cover class	Species	Cover class
Alopecurus arundinaceus	1	Ambrosia psilostachya	0
Bare Ground	1	Bassia scoparia	0
Bromus arvensis	0	Bromus japonicus	3
Bromus tectorum	0	Chenopodium album	1
Convolvulus arvensis	2	Elymus canadensis	0
Elymus repens	1	Elymus trachycaulus	1
Hordeum jubatum	1	Lactuca serriola	2
Lepidium perfoliatum	2	Medicago sativa	0
Melilotus officinalis	0	Opuntia sp	0
Pascopyrum smithii	5	Poa compressa	1
Poa pratensis	3	Populus angustifolia	0
Populus tremuloides	0	Ratibida columnifera	0
Rumex crispus	1	Schedonorus pratensis	1
Sisymbrium altissimum	0	Thlaspi arvense	2
Tragopogon dubius	1		

Comments:

Pascopyrum smithii cover has increased in 2024 while Elymus spp. cover has decreased.

Community # 6 **Community Type:** Eleocharis palustris / Alopecurus spp. **Acres:** 0.82

Species	Cover class	Species	Cover class
Alopecurus arundinaceus	1	Alopecurus pratensis	1
Bare Ground	0	Convolvulus arvensis	0
Eleocharis palustris	5	Elymus repens	0
Lactuca serriola	1	Lepidium perfoliatum	1
Open Water	1	Pascopyrum smithii	2
Poa compressa	1	Poa pratensis	0
Populus deltoides	1	Rumex crispus	0
Salix amygdaloides	1	Schoenoplectus maritimus	0
Thlaspi arvense	2		

Comments:

Eleocharis palustris has increased in cover due to increased wetness across site. Hordeum jubatum and Alopecurus spp. have decreased in response. To better reflect the species composition, Vegetation Community 5 (Hordeum jubatum/Alopecurus spp.) has been changed to Vegetation Community 6 (Eleocharis palustris/Alopecurus spp.).

Total Vegetation Community Acreage **2.76**

VEGETATION TRANSECTS

Site: Forsyth NW - East Date: 6/10/2024

Transect Number: 1 **Compass Direction from Start:** 145

Interval Data:

Ending Station 35 Community Type: Pascopyrum smithii / Elymus sp.

Species	Cover class	Species	Cover class
Bare Ground	3	Bromus japonicus	0
Lactuca serriola	1	Lepidium perfoliatum	1
Medicago sativa	0	Panicum virgatum	0
Pascopyrum smithii	5	Rumex crispus	0
Thlaspi arvense	2		

Ending Station 93 Community Type: Eleocharis palustris / Alopecurus spp.

Species	Cover class	Species	Cover class
Alopecurus arundinaceus	0	Alopecurus pratensis	1
Eleocharis palustris	5	Open Water	1
Pascopyrum smithii	0		

Ending Station 125 Community Type: Pascopyrum smithii / Elymus sp.

Species	Cover class	Species	Cover class
Alopecurus arundinaceus	0	Bare Ground	1
Bromus japonicus	3	Chenopodium album	0
Convolvulus arvensis	4	Elymus repens	1
Elymus trachycaulus	0	Lactuca serriola	0
Lepidium perfoliatum	1	Medicago sativa	0
Pascopyrum smithii	4	Poa compressa	2
Poa pratensis	4	Sisymbrium altissimum	0
Thlaspi arvense	2		

Transect Notes:

Decreased cover of Alopecurus arundinaceus and Open Water since 2023. Increased cover of Eleocharis palustris, Pascopyrum smithii, and Poa pratensis in 2024.

Transect Number: 2 **Compass Direction from Start:** 280

Interval Data:

Ending Station 38 Community Type: Pascopyrum smithii / Elymus spp

Species	Cover class	Species	Cover class
Bare Ground	3	Bromus japonicus	0
Convolvulus arvensis	0	Lactuca serriola	2
Lepidium perfoliatum	0	Pascopyrum smithii	5
Poa compressa	0	Populus angustifolia	0
Populus deltoides	0	Thlaspi arvense	0
Tragopogon dubius	0		

Ending Station 127 Community Type: Eleocharis palustris / Alopecurus spp.

Species	Cover class	Species	Cover class
Eleocharis palustris	5	Pascopyrum smithii	2
Rumex crispus	0	Salix fragilis	1
Schoenoplectus maritimus	0		

Ending Station 181 Community Type: Pascopyrum smithii / Elymus spp.

Species	Cover class	Species	Cover class
Bare Ground	0	Bromus japonicus	0
Chenopodium album	0	Lactuca serriola	1
Medicago sativa	0	Pascopyrum smithii	5
Poa compressa	2	Rumex crispus	1
Thlaspi arvense	1		

Transect Notes:

Increased water in 2023 led to domination of Eleocharis palustris.

PLANTED WOODY VEGETATION SURVIVAL

Forsyth NW - East

Comments

No planted woody vegetation.

Forsyth NW - East

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
Common Nighthawk	1	FO	
Golden Eagle	1	FO	
Killdeer	1	L	
Lark Sparrow	1	L	
Mourning Dove	1	L	
Red-winged Blackbird	5	FO	
Rock Wren	2	FO	
Western Kingbird	1	FO, L	
Western Meadowlark	2	FO	
Yellow Warbler	2	FO	

Bird Comments

During the 2024 monitoring visit, ten bird species were observed. A large raptor nest was also observed near the site in 2024, likely belonging to the Golden Eagle that was spotted during monitoring.

BEHAVIOR CODES

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

HABITAT CODES

AB = Aquatic bed **SS** = Scrub/Shrub **FO** = Forested **UP** = Upland buffer **I** = Island

WM = Wet meadow **MA** = Marsh **US** = Unconsolidated shore **MF** = Mud Flat **OW** = Open Water

Mammals and Herptiles

Wildlife Comments:
No wildlife noted during the 2024 field survey.

Forsyth NW - East

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	46.321041	-106.838693		
DP01w	46.321002	-106.83866		
DP02u	46.319737	-106.83774		
DP02w	46.319706	-106.837783		
DP03u	46.319041	-106.835472		
DP03w	46.31902	-106.835454		
PP-1	46.321003	-106.838814	125	Photo Point 1
PP-2	46.320068	-106.837128	210	Photo Point 2
PP-3	46.318233	-106.834335	305	Photo Point 3
T-1 end	46.320297	-106.838493	325	Transect 1 end
T-1 start	46.321045	-106.838486	145	Transect 1 start
T-2 end	46.318417	-106.834923	100	Transect 2 end
T-2 start	46.318336	-106.834175	280	Transect 2 start

Comments:

Forsyth NW - East

ADDITIONAL ITEMS CHECKLIST

Hydrology

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

Photos

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

Vegetation

☑ Map vegetation community boundaries

☑ Complete Vegetation Transects

Soils

☑ Assess soils

Wetland Delineations

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

Wetland Delineation Comments

Functional Assessments

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

Functional Assessment Comments:

Category 3 wetland.

Maintenance

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

If yes, do they need to be repaired?

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

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

into or out of the wetland? No

If yes, are the structures in need of repair?

If yes, describe the problems below.

N/A

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Forsyth NW West City/County: Rosebud County Sampling Date: 2024-06-11

Applicant/Owner: MDT State: Montana Sampling Point: DP01u

Investigator(s): R McEldowney Section, Township, Range: S29 T7N R39E

Landform (hillslope, terrace, etc.): Side Slope Local relief (concave, convex, none): Convex Slope (%): 100

Subregion (LRR): G 60B Lat: 46.336531 Long: -106.871973 Datum: NAD 83

Soil Map Unit Name: 138 - Marvan silty clay, warm, 0 to 2 percent slopes NWI classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Upland sample point in the SE corner of the west mitigation site.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Agropyron cristata	40	✔	UPL
2. Bromus tectorum	20	✔	UPL
3. Euphoria esula	15		UPL
4. Lactuca serriola	2		FAC
5.			
6.			
7.			
8.			
9.			
10.			
	77 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 23

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	2	x 3 =	6
FACU species	0	x 4 =	0
UPL species	75	x 5 =	375
Column Totals:	77 (A)		381 (B)

Prevalence Index = B/A = 4.94

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

Upland sample point dominated by crested wheatgrass.

SOIL

Sampling Point: DP01u

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0 - 14	10YR 2/2	100					Loamy Sand	Gravelly
-								
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** ✔

Remarks:

No hydric soil indicators observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** ✔

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

Remarks:

No evidence of wetland hydrology observed.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Forsyth NW West City/County: Rosebud County Sampling Date: 2024-06-11

Applicant/Owner: MDT State: Montana Sampling Point: DP01w

Investigator(s): R McEldowney Section, Township, Range: S29 T7N R39E

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR): G 60B Lat: 46.336544 Long: -106.871953 Datum: NAD 83

Soil Map Unit Name: 138 - Marvan silty clay, warm, 0 to 2 percent slopes NWI classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔ No _____	
Wetland Hydrology Present?	Yes ✔ No _____	

Remarks:

Wetland sample point in the wetland fringe in SE corner of west site. PEM, depressional.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Schoenoplectus maritimus	20	✔	OBL
2. Rumex mexicanus	1		FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	21 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 79

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	0	x 2 =	0
FAC species	1	x 3 =	3
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	21 (A)		23 (B)

Prevalence Index = B/A = 1.09

Hydrophytic Vegetation Indicators:

✔ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

PEM. Sample point is dominated by alkali bulrush. Other areas of the wetland fringe are dominated by narrow-leaved cattail. Evidence of hydrophytic vegetation includes a positive rapid test, a positive dominance test, and a prevalence index less than or equal to 3.0.

SOIL

Sampling Point: DP01w

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 12	N 4/0	100					Loamy Sand	Gravelly
-								
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ✔ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ No ___

Remarks:

Gleyed sand matrix.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ✔ Surface Water (A1)
- ___ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ✔ Drift Deposits (B3)
- ✔ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✔ Geomorphic Position (D2)
- ✔ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ✔ No ___ Depth (inches): 24

Water Table Present? Yes ___ No ✔ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ✔ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✔ No ___

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

Remarks:

Site is inundated with steep banks. Evidence of wetland hydrology includes soil saturation, surface water, drift deposits, algal mat or crust, geomorphic position, and a positive FAC-Neutral test.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Forsyth NW West City/County: Rosebud County Sampling Date: 2024-06-11

Applicant/Owner: MDT State: Montana Sampling Point: DP02u

Investigator(s): R McEldowney Section, Township, Range: S29 T7N R39E

Landform (hillslope, terrace, etc.): Alluvial Flat Local relief (concave, convex, none): Linear Slope (%): 0

Subregion (LRR): G 60B Lat: 46.338868 Long: -106.87628 Datum: NAD 83

Soil Map Unit Name: 138 - Marvan silty clay, warm, 0 to 2 percent slopes NWI classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Upland sample point in center of site, south side.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Bromus inermis	35	✔	UPL
2. Pascopyrum smithii	35	✔	FACU
3. Iva axillaris	10		FAC
4. Lepidium perfoliatum	5		FAC
5.			
6.			
7.			
8.			
9.			
10.			
	85 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 15

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	15	x 3 =	45
FACU species	35	x 4 =	140
UPL species	35	x 5 =	175
Column Totals:	85 (A)		360 (B)

Prevalence Index = B/A = 4.23

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

Upland point dominated by FACU and UPL vegetation.

SOIL

Sampling Point: DP02u

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0 - 8	2.5Y 4/3	100	10YR 4/6	1	C		Silty Clay	
8 - 16	2.5Y 3/1	100					Silty Clay	
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** ✔

Remarks:

No hydric soil indicators observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** ✔

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

Remarks:

No evidence of wetland hydrology observed.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Forsyth NW West City/County: Rosebud County Sampling Date: 2024-06-11

Applicant/Owner: MDT State: Montana Sampling Point: DP02w

Investigator(s): R McEldowney Section, Township, Range: S29 T7N R39E

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR): G 60B Lat: 46.338824 Long: -106.876335 Datum: NAD 83

Soil Map Unit Name: 138 - Marvan silty clay, warm, 0 to 2 percent slopes NWI classification: PABFx

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

Wetland sample point on south side, in the central portion of the site.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Alopecurus arundinaceus	60	✔	FACW
2. Rumex crispus	10		FAC
3. Elymus repens	5		FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	75 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 25

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	60	x 2 =	120
FAC species	10	x 3 =	30
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	75 (A)		170 (B)

Prevalence Index = B/A = 2.26

Hydrophytic Vegetation Indicators:

✔ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Stand of creeping meadow foxtail. Evidence of hydrophytic vegetation includes a positive rapid test, a positive dominance test, and a prevalence index less than or equal to 3.0.

SOIL

Sampling Point: DP02w

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 14	2.5Y 4/1	60	10YR 4/6	30	C	M	Silty Clay	
0 - 14			N 3/0	10	D	M	Silty Clay	
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✔ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ✔ **No** ___

Remarks:

Depleted matrix with redox and depletions. Prominent redoximorphic concentrations common within depleted matrix.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ✔ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ✔ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✔ Geomorphic Position (D2)
- ✔ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): _____

Water Table Present? Yes ✔ No ___ Depth (inches): 10

Saturation Present? (includes capillary fringe) Yes ✔ No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** ✔ **No** ___

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

Remarks:

Soil is saturated to the surface. Strong redox throughout. Evidence of wetland hydrology includes a high water table, soil saturation, oxidized rhizospheres along living roots, geomorphic position, and a positive FAC-Neutral test.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Forsyth NW West City/County: Rosebud County Sampling Date: 2024-06-11

Applicant/Owner: MDT State: Montana Sampling Point: DP03u

Investigator(s): E Reynaud Section, Township, Range: S20 T7N R39E

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 5

Subregion (LRR): G 60B Lat: 46.339839 Long: -106.87639 Datum: NAD 83

Soil Map Unit Name: 36 - Borollic Camborthids-Ustic Torrifluvents complex, 0 to 8 percent slopes NWI classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Water levels high, sample point located in NW area of site.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Pascopyrum smithii	45	✔	FACU
2. Poa pratensis	20	✔	FACU
3. Lactuca serriola	12		FAC
4. Thlaspi arvense	5		FACU
5. Elymus trachycaulus	2		FACU
6. Lepidium perfoliatum	2		FAC
7. Tragopogon dubius	1		
8.			
9.			
10.			
	87 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 13

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	14	x 3 =	42
FACU species	72	x 4 =	288
UPL species	0	x 5 =	0
Column Totals:	86 (A)		330 (B)

Prevalence Index = B/A = 3.83

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

No evidence of hydrophytic vegetation present. Sample point 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.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0 - 8	10YR 4/2	100					Silty Clay Loam	
-								
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

Cobbles/gravel restricted excavation deeper than 8". No hydric soil indicators observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

No evidence of wetland hydrology present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Forsyth NW West City/County: Rosebud County Sampling Date: 2024-06-11

Applicant/Owner: MDT State: Montana Sampling Point: DP03w

Investigator(s): E Reynaud Section, Township, Range: S20 T7N R39E

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR): G 60B Lat: 46.339839 Long: -106.87639 Datum: NAD 83

Soil Map Unit Name: 36 - Borollic Camborthids-Ustic Torrifluvents complex, 0 to 8 percent slopes NWI classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

Water levels high, sample point located in SW area of site.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Eleocharis palustris	20	✔	OBL
2. Lepidium perfoliatum	10	✔	FAC
3. Pascopyrum smithii	10	✔	FACU
4. Schoenoplectus maritimus	10	✔	OBL
5.			
6.			
7.			
8.			
9.			
10.			
	50 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 50

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	50 (A)		100 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Evidence of hydrophytic vegetation includes a positive dominance test and a prevalence index less than or equal to 3.0. Sample point comprised of 30% bare ground and 20% open water.

SOIL

Sampling Point: DP03w

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 5	10YR 5/1	98	10YR 4/6	2	C		Clay	
5 - 10	10YR 5/2	100					Clay	
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✔ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ No ___

Remarks:

Prominent redoximorphic concentrations common within the depleted matrix. Gravel restricted excavation deeper than 10".

HYDROLOGY

Wetland Hydrology Indicators:

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

- ✔ Surface Water (A1)
- ___ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✔ Geomorphic Position (D2)
- ✔ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ✔ No ___ Depth (inches): 3

Water Table Present? Yes ___ No ✔ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ✔ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✔ No ___

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

Remarks:

Evidence of wetland hydrology includes surface water, soil saturation, geomorphic position, and a positive FAC-Neutral test.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Forsyth NW Middle City/County: Rosebud County Sampling Date: 2024-06-10

Applicant/Owner: MDT State: Montana Sampling Point: DP01u

Investigator(s): R McEldowney Section, Township, Range: S33 T7N R39E

Landform (hillslope, terrace, etc.): Alluvial Flat Local relief (concave, convex, none): Linear Slope (%): 3

Subregion (LRR): G 60B Lat: 46.323377 Long: -106.843567 Datum: NAD 83

Soil Map Unit Name: 98 - Harlem silty clay, 0 to 2 percent slopes, occasionally flooded NWI classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Upland point located on road side of wetland, west of center.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1. Populus deltoides	3		FAC
2.			
3.			
4.			
5.			
	3 = Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Poa pratensis	35	✔	FACU
2. Convolvulus arvensis	15	✔	
3. Pascopyrum smithii	15	✔	FACU
4. Panicum virgatum	5		FAC
5.			
6.			
7.			
8.			
9.			
10.			
	70 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 30

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	8	x 3 =	24
FACU species	50	x 4 =	200
UPL species	0	x 5 =	0
Column Totals:	58 (A)		224 (B)

Prevalence Index = B/A = 3.86

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

Upland point dominated by Kentucky bluegrass.

SOIL

Sampling Point: DP01u

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0 - 16	10YR 4/2	100					Silty Clay	
-								
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** ✔

Remarks:

No hydric soil indicators observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** ✔

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

Remarks:

No evidence of wetland hydrology observed.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Forsyth NW Middle City/County: Rosebud County Sampling Date: 2024-06-10

Applicant/Owner: MDT State: Montana Sampling Point: DP01w

Investigator(s): R McEldowney Section, Township, Range: S34 T7N R39E

Landform (hillslope, terrace, etc.): Ditch Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR): G 60B Lat: 46.318352 Long: -106.834463 Datum: NAD 83

Soil Map Unit Name: 98 - Harlem silty clay, 0 to 2 percent slopes, occasionally flooded NWI classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

PEM, Depressional. Sample point located at west end.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Eleocharis palustris	35	✔	OBL
2. Alopecurus arundinaceus	10	✔	FACW
3. Pascopyrum smithii	3		FACU
4. Thlaspi arvense	2		FACU
5.			
6.			
7.			
8.			
9.			
10.			
	50 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 50

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	35	x 1 =	35
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	50 (A)		75 (B)

Prevalence Index = B/A = 1.50

Hydrophytic Vegetation Indicators:

✔ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Evidence of hydrophytic vegetation includes a positive rapid test, positive dominance test, and a prevalence index less than or equal to 3.0.

SOIL

Sampling Point: DP01w

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0 - 1	10Y 4/1	100					Mucky Loam/Clay	Sulfidic odor.
1 - 16	2.5Y 4/2	100					Silty Clay	
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ✔ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ✔ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ No ___

Remarks:

Sulfidic odor in upper layer.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ✔ Surface Water (A1)
- ___ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ✔ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✔ Geomorphic Position (D2)
- ✔ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ✔ No ___ Depth (inches): 3

Water Table Present? Yes ___ No ✔ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ✔ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✔ No ___

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

Remarks:

Surface water occurs in patches, saturated throughout. Sulfidic odor in upper soil horizon. Evidence of wetland hydrology includes soil saturation, surface water, hydrogen sulfide odor, geomorphic position, and a positive FAC-Neutral test.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Forsyth NW Middle City/County: Rosebud County Sampling Date: 2024-06-10

Applicant/Owner: MDT State: Montana Sampling Point: DP02u

Investigator(s): R McEldowney Section, Township, Range: S33 T7N R39E

Landform (hillslope, terrace, etc.): Alluvial Flat Local relief (concave, convex, none): Linear Slope (%): 0

Subregion (LRR): G 60B Lat: 46.322501 Long: -106.841502 Datum: NAD 83

Soil Map Unit Name: 98 - Harlem silty clay, 0 to 2 percent slopes, occasionally flooded NWI classification: PABFh

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Upland sample point dominated by western wheatgrass.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Pascopyrum smithii	60	✔	FACU
2. Rumex crispus	5		FAC
3. Thlaspi arvense	2		FACU
4. Lactuca serriola	1		FAC
5.			
6.			
7.			
8.			
9.			
10.			
	68 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 32

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	6	x 3 =	18
FACU species	62	x 4 =	248
UPL species	0	x 5 =	0
Column Totals:	68 (A)		266 (B)

Prevalence Index = B/A = 3.91

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

Sample point dominated by FACU vegetation.

SOIL

Sampling Point: DP02u

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0 - 16	10YR 4/2	100					Silty Clay	Soil is moist.
-								
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

No hydric soil indicators observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

No evidence of wetland hydrology.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Forsyth NW Middle City/County: Rosebud County Sampling Date: 2024-06-10

Applicant/Owner: MDT State: Montana Sampling Point: DP02w

Investigator(s): E Reynaud Section, Township, Range: S33 T7N R39E

Landform (hillslope, terrace, etc.): Valley Floor Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR): G 60B Lat: 46.322486 Long: -106.841524 Datum: NAD 83

Soil Map Unit Name: 98 - Harlem silty clay, 0 to 2 percent slopes, occasionally flooded NWI classification: PABFh

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

Wetland sample point near southeast end of the project area. Normal conditions exist.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Eleocharis palustris	70	✔	OBL
2. Pascopyrum smithii	10		FACU
3. Scirpus maritimus	10		OBL
4. Thlaspi arvense	3		FACU
5. Rumex crispus	1		FAC
6.			
7.			
8.			
9.			
10.			
	94 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 6

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	80	x 1 =	80
FACW species	0	x 2 =	0
FAC species	1	x 3 =	3
FACU species	13	x 4 =	52
UPL species	0	x 5 =	0
Column Totals:	94 (A)		135 (B)

Prevalence Index = B/A = 1.43

Hydrophytic Vegetation Indicators:

✔ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Evidence of hydrophytic vegetation present in a positive rapid test, positive dominance test, and a prevalence index less than or equal to 3.0.

SOIL

Sampling Point: DP02w

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 16	10YR 4/1	98	10YR 4/6	2	C	M	Clay	
-								
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✔ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ No ___

Remarks:

Prominent redoximorphic features common in the depleted matrix.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ✔ Surface Water (A1)
- ✔ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✔ Geomorphic Position (D2)
- ✔ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ✔ No ___ Depth (inches): 2

Water Table Present? Yes ✔ No ___ Depth (inches): 12

Saturation Present? (includes capillary fringe) Yes ✔ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✔ No ___

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

Remarks:

Evidence of wetland hydrology present in surface water, a high water table, soil saturation, geomorphic position, and a positive FAC-Neutral test.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Forsyth NW East City/County: Rosebud County Sampling Date: 2024-06-10

Applicant/Owner: MDT State: Montana Sampling Point: DP01u

Investigator(s): R McEldowney Section, Township, Range: S34 T7N R39E

Landform (hillslope, terrace, etc.): Alluvial Flat Local relief (concave, convex, none): Concave Slope (%): 4

Subregion (LRR): G 60B Lat: 46.318332 Long: -106.834496 Datum: NAD 83

Soil Map Unit Name: 98 - Harlem silty clay, 0 to 2 percent slopes, occasionally flooded NWI classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Upland sample point at west end of the east site.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Pascopyrum smithii	40	✔	FACU
2. Thlaspi arvense	10		FACU
3. Lactuca serriola	5		FAC
4. Panicum virgatum	5		FAC
5. Bromus tectorum	2		UPL
6.			
7.			
8.			
9.			
10.			
	62 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 38

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	50	x 4 =	200
UPL species	2	x 5 =	10
Column Totals:	62 (A)		240 (B)

Prevalence Index = B/A = 3.87

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

Upland sample point dominated by western wheatgrass.

SOIL

Sampling Point: DP01u

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0 - 15	2.5Y 4/2	100					Silty Clay	
-								
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

No hydric soil indicators observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

No evidence of wetland hydrology observed.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Forsyth NW East City/County: Rosebud County Sampling Date: 2024-06-10

Applicant/Owner: MDT State: Montana Sampling Point: DP01w

Investigator(s): R McEldowney Section, Township, Range: S33 T7N R39E

Landform (hillslope, terrace, etc.): Ditch Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR): G 60B Lat: 46.323405 Long: -106.84354 Datum: NAD 83

Soil Map Unit Name: 98 - Harlem silty clay, 0 to 2 percent slopes, occasionally flooded NWI classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

Wetland site in a linear borrow ditch. The site is inundated.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1. Salix amygdaloides	15	✔	FACW
2.			
3.			
4.			
5.			
	15 = Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Eleocharis palustris	30	✔	OBL
2. Pascopyrum smithii	7		FACU
3. Rumex crispus	5		FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	42 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 58

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	15	x 2 =	30
FAC species	5	x 3 =	15
FACU species	7	x 4 =	28
UPL species	0	x 5 =	0
Column Totals:	57 (A)		103 (B)

Prevalence Index = B/A = 1.80

Hydrophytic Vegetation Indicators:

✔ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

PEM with peach leaf willow along the upper margin of the wetland. Evidence of hydrophytic vegetation includes positive rapid test, positive dominance test, and a prevalence index less than or equal to 3.0.

SOIL

Sampling Point: DP01w

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0 - 1	10Y 4/1	100					Muck	Sulfidic odor.
1 - 16	2.5Y 4/2	100					Silty Clay	
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ✔ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ✔ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ No ___

Remarks:

Sulfidic odor in upper layer.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ✔ Surface Water (A1)
- ___ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ✔ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ✔ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✔ Geomorphic Position (D2)
- ✔ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ✔ No ___ Depth (inches): 5

Water Table Present? Yes ___ No ✔ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ✔ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✔ No ___

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

Remarks:

Site is inundated and has a sulfidic odor in the upper part. Evidence of wetland hydrology includes soil saturation, surface water, hydrogen sulfide odor geomorphic position, and a positive FAC-Neutral test.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Forsyth NW East City/County: Rosebud County Sampling Date: 2024-06-10

Applicant/Owner: MDT State: Montana Sampling Point: DP02u

Investigator(s): R McEldowney Section, Township, Range: S34 T7N R39E

Landform (hillslope, terrace, etc.): Alluvial Flat Local relief (concave, convex, none): Convex Slope (%): 0

Subregion (LRR): G 60B Lat: 46.320514 Long: -106.837722 Datum: NAD 83

Soil Map Unit Name: 98 - Harlem silty clay, 0 to 2 percent slopes, occasionally flooded NWI classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Upland sample point several feet higher than paired wetland point.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Pascopyrum smithii	75	✔	FACU
2. Bromus tectorum	5		UPL
3. Lactuca serriola	3		FAC
4. Lepidium perfoliatum	2		FAC
5. Thlaspi arvense	1		FACU
6.			
7.			
8.			
9.			
10.			
	86 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 14

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	76	x 4 =	304
UPL species	5	x 5 =	25
Column Totals:	86 (A)		344 (B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

Sample point is dominated by FACU vegetation.

SOIL

Sampling Point: DP02u

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0 - 14	2.5Y 4/2	100					Silty Clay	Slightly moist.
-								
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** ✔

Remarks:

No hydric soil indicators observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** ✔

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

Remarks:

No evidence of wetland hydrology observed. Sample point is on a flat bench roughly 6 ft higher than its wetland pair.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Forsyth NW East City/County: Rosebud County Sampling Date: 2024-06-10

Applicant/Owner: MDT State: Montana Sampling Point: DP02w

Investigator(s): R McEldowney Section, Township, Range: S34 T7N R39E

Landform (hillslope, terrace, etc.): Ditch Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR): G 60B Lat: 46.320491 Long: -106.837756 Datum: NAD 83

Soil Map Unit Name: 98 - Harlem silty clay, 0 to 2 percent slopes, occasionally flooded NWI classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔ No _____	
Wetland Hydrology Present?	Yes ✔ No _____	

Remarks:

Wetland sample point in middle of east site. PEM, depressional.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Eleocharis palustris	65	✔	OBL
2. Alopecurus arundinaceus	5		FACW
3. Pascopyrum smithii	3		FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	73 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 27

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	65	x 1 =	65
FACW species	5	x 2 =	10
FAC species	0	x 3 =	0
FACU species	3	x 4 =	12
UPL species	0	x 5 =	0
Column Totals:	73 (A)		87 (B)

Prevalence Index = B/A = 1.19

Hydrophytic Vegetation Indicators:

✔ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

PEM wetland dominated by spikerush. Evidence of hydrophytic vegetation includes positive rapid test, positive dominance test, and a prevalence index less than or equal to 3.0.

SOIL

Sampling Point: DP02w

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0 - 15	2.5Y 4/2	100					Silty Clay	
-								
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ✔ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ✔ No ___

Remarks:

Sulfidic odor at surface.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ✔ Surface Water (A1)
- ___ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ✔ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✔ Geomorphic Position (D2)
- ✔ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ✔ No ___ Depth (inches): 2

Water Table Present? Yes ___ No ✔ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ✔ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✔ No ___

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

Remarks:

Surface water occurs in patches. Closest patch is 10 ft from sample point. Evidence of wetland hydrology includes soil saturation, surface water, hydrogen sulfide odor, geomorphic position, and a positive FAC-Neutral test.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Forsyth NW East City/County: Rosebud County Sampling Date: 2024-06-10

Applicant/Owner: MDT State: Montana Sampling Point: DP03u

Investigator(s): R McEldowney Section, Township, Range: S34 T7N R39E

Landform (hillslope, terrace, etc.): Side Slope Local relief (concave, convex, none): Convex Slope (%): 25

Subregion (LRR): G 60B Lat: 46.319596 Long: -106.836468 Datum: NAD 83

Soil Map Unit Name: 98 - Harlem silty clay, 0 to 2 percent slopes, occasionally flooded NWI classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Upland sample point on side slope of borrow ditch; roughly 3 ft higher than paired wetland point.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 ft r)			
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Pascopyrum smithii	60	✔	FACU
2. Lepidium perfoliatum	15		FAC
3. Lactuca serriola	10		FAC
4. Thlaspi arvense	1		FACU
5.			
6.			
7.			
8.			
9.			
10.			
	86 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 14

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	25	x 3 =	75
FACU species	61	x 4 =	244
UPL species	0	x 5 =	0
Column Totals:	86 (A)		319 (B)

Prevalence Index = B/A = 3.70

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

Sample point is dominated by FACU vegetation.

SOIL

Sampling Point: DP03u

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0 - 16	2.5Y 4/2	100					Silty Clay	Soil is dry.
-								
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** ✔

Remarks:

No hydric soil indicators observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** ✔

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

Remarks:

No evidence of wetland hydrology observed.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Forsyth NW East City/County: Rosebud County Sampling Date: 2024-06-10

Applicant/Owner: MDT State: Montana Sampling Point: DP03w

Investigator(s): R McEldowney Section, Township, Range: S34 T7N R39E

Landform (hillslope, terrace, etc.): Ditch Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR): G 60B Lat: 46.319614 Long: -106.836446 Datum: NAD 83

Soil Map Unit Name: 98 - Harlem silty clay, 0 to 2 percent slopes, occasionally flooded NWI classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

PEM, depressional in a borrow ditch.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1. Populus deltoides	1		FAC
2.			
3.			
4.			
5.			
	1 = Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Eleocharis palustris	70	✔	OBL
2. Pascopyrum smithii	3		FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	73 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 27

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	70	x 1 =	70
FACW species	0	x 2 =	0
FAC species	1	x 3 =	3
FACU species	3	x 4 =	12
UPL species	0	x 5 =	0
Column Totals:	74 (A)		85 (B)

Prevalence Index = B/A = 1.14

Hydrophytic Vegetation Indicators:

✔ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Nearly a pure stand of spikerush in herbaceous layer. Evidence of hydrophytic vegetation includes a positive rapid test, a positive dominance test, and a prevalence index less than or equal to 3.0.

SOIL

Sampling Point: DP03w

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0 - 15	N 4/0	100					Silty Clay	Gleyed
-								
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ✔ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ No ___

Remarks:

Gleyed soil matrix.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ✔ Surface Water (A1)
- ___ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✔ Geomorphic Position (D2)
- ✔ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ✔ No ___ Depth (inches): 2

Water Table Present? Yes ___ No ✔ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ✔ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✔ No ___

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

Remarks:

Site is inundated in patches and saturated to surface throughout. Evidence of wetland hydrology includes soil saturation, surface water, geomorphic position, and a positive FAC-Neutral test.

MDT Montana Wetland Assessment Form (revised March 2008)

1. Project Name: Forsyth NW- West

2. MDT Project #: STPP 14(9)259 **Control #:** 9680000

3. Evaluation Date: 06/11/2024 **4. Evaluator(s):** E Reynaud

5. Wetlands/Site #(s): Forsyth NW- West

6. Wetland Location(s): i. Legal: T7N,R39E,20 ;T7N,R39E,29

Latitude/Longitude: 46.338472, -106.874619 : Center of AA

ii. Approx. Stationing or Mileposts: RP 280 on US 12

iii. Watershed: 14

Watershed Name, County: Middle Yellowstone, Rosebud

7. a. Evaluating Agency: CCI for MDT

b. Purpose of Evaluation:

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

8. Wetland size: 4.010 acres (measured)

9. Assessment area (AA): 10.670 acres (measured)

10. Classification of Wetland and Aquatic Habitats in AA

HGM Class (Brinson)	Class (Cowardin)	Modifier (Cowardin)	Water Regime	% of AA
R	EM	E	SI	13.4
R	UB	E	SI	5
R	UB	I	SI	81.6

Abbreviations: *(see manual for definitions)*

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

Cowardin Classes: Rock Bottom (**RB**), Unconsolidated bottom (**UB**), Aquatic Bed (**AB**), Unconsolidated Shore (**US**), Moss-lichen Wetland (**ML**), Emergent Wetland (**EM**), Scrub-Shrub Wetland (**SS**), Forested Wetland (**FO**)

Modifiers: Excavated (**E**), Impounded (**I**), Diked (**D**), Partly Drained (**PD**), Farmed (**F**), Artificial (**A**)

Water Regimes: Permanent / Perennial (**PP**), Seasonal / Intermittent (**SI**), Temporary / Ephemeral (**TE**)

11. Estimated relative abundance: (of similarly classified sites within the same Major Montana Watershed Basin, see definitions)

COMMON

12. General condition of AA:

i. Disturbance: (use matrix below to determine [circle] appropriate response – see instructions for Montana-listed noxious weed and aquatic nuisance vegetation species (**ANVS**) list)

Conditions within AA	*Predominant conditions adjacent to (within 500 feet of) AA*		
	Managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted; does not contain roads or buildings; and noxious weed or ANVS cover is >=15%.	Land not cultivated, but may be moderately grazed or hayed or selectively logged; or has been subject to minor clearing; contains few roads or buildings; noxious weed or ANVS cover is <= 30%.	Land cultivated or heavily grazed or logged; subject to substantial fill placement, grading, clearing, or hydrological alteration; high road or building density; or noxious weed or ANVS cover is > 30%.
AA occurs and is managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted; does not contain roads or occupied buildings; and noxious weed or ANVS cover is <= 15%.	low disturbance	**low disturbance**	moderate disturbance
AA not cultivated, but may be moderately grazed or hayed or selectively logged; or has been subject to relatively minor clearing, fill placement, or hydrological alteration; contains few roads or buildings; noxious weed or ANVS cover is <=	moderate disturbance	moderate disturbance	high disturbance
AA cultivated or heavily grazed or logged; subject to relatively substantial fill placement, grading, clearing, or hydrological alteration; high road or building density; or noxious weed or ANVS cover is > 30%.	high disturbance	high disturbance	high disturbance

Comments: (types of disturbance, intensity, season, etc.): Construction activities in 2017 to repair the dike structure temporarily increased disturbance rating at the site to high in 2017, was reduced to moderate in 2018, and reduced to low in 2020.

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

iii. Provide brief descriptive summary of AA and surrounding land use/habitat: AA includes existing and constructed wetlands within floodplain of Big Spring Coulee and Big Porcupine Creek. Surrounding land includes US 12 and rangeland that supports livestock grazing

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

Existing # of "Cowardin" Vegetated Classes in AA	**Initial Rating**	**Is current management preventing (passive) existence of additional vegetated classes?**		**Modified Rating**
>= 3 (or 2 if 1 is forested) classes	H	NA	NA	NA
2 (or 1 if forested) classes	M	NA	NA	NA
1 class, but not a monoculture	**M**	<-- NO	YES -->	L
1 class, monoculture (1 species comprises >= 90% of total cover)	L	NA	NA	NA

Comments: This site consists of a mosaic of emergent wetlands and open water.

SECTION PERTAINING to FUNCTIONS & VALUES ASSESSMENT

14A. Habitat for Federally Listed or Proposed Threatened or Endangered Plants or Animals:

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

Primary or critical habitat (list species)	**Secondary habitat (list species)**	**Incidental habitat (list species)**
		Monarch butterfly(S)

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

Highest Habitat Level	*doc/primary*	*sus/primary*	*doc/secondary*	*sus/secondary*	*doc/incidental*	*sus/incidental*	*None*
Functional Points and Rating	1H	.9H	.8M	.7M	.3L	**.1L**	0L

Sources for documented use (e.g. observations, records, etc): USFWS, 2024

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

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

Primary or critical habitat (list species)	**Secondary habitat (list species)**	**Incidental habitat (list species)**
Scarlet Ammannia - Ammannia robusta		American Bittern(D) - S2S3 Great Blue Heron(S) - S2S3

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

Highest Habitat Level	*doc/primary*	*sus/primary*	*doc/secondary*	*sus/secondary*	*doc/incidental*	*sus/incidental*	*None*
***S1 Species:** Functional Points and Rating*	1H	.8H	.7M	.6M	.2L	.1L	0L
***S2 and S3 Species:** Functional Points and Rating*	**.9H**	.7M	.6M	.5M	.2L	.1L	0L

Sources for documented use (e.g. observations, records, etc): MTNHP, 2024. American Bittern observed by MDT during October 2024 site visit.

14C. General Wildlife Habitat Rating:

i. Evidence of overall wildlife use in the AA (circle substantial, moderate, or low based on supporting evidence):

Substantial (based on any of the following [check]):
- X observations of abundant wildlife #s or high species diversity (during any period)
- __ abundant wildlife sign such as scat, tracks, nest structures, game trails, etc.
- X presence of extremely limiting habitat features not available in the surrounding area
- __ interviews with local biologists with knowledge of the AA

Minimal (based on any of the following [check]):
- __ few or no wildlife observations during peak use periods
- __ little to no wildlife sign
- __ sparse adjacent upland food sources
- __ interviews with local biologists with knowledge of the AA

Moderate (based on any of the following [check]):
- __ observations of scattered wildlife groups or individuals or relatively few species during peak periods
- __ common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, etc.
- __ adequate adjacent upland food sources
- __ interviews with local biologists with knowledge of the AA

ii. Wildlife habitat features (Working from top to bottom, circle appropriate AA attributes in matrix to arrive at rating. Structural diversity is from #13. For class cover to be considered evenly distributed, the most and least prevalent vegetated classes must be within 20% of each other interms of their percent composition of the AA (see #10). Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; T/E = temporary/ephemeral; and A = absent [see instructions for further definitions of these terms])

Structural diversity (see #13)	High								Moderate								Low			
Class cover distribution (all vegetated classes)	Even				Uneven				Even				Uneven				Even			
Duration of surface water in >=10% of AA	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A
Low disturbance at AA (see #12i)	E	E	E	H	E	E	H	H	E	**H**	H	M	E	H	M	M	E	H	M	M
Moderate disturbance at AA (see #12i)	H	H	H	H	H	H	H	M	H	H	M	M	H	M	M	L	H	M	L	L
High disturbance at AA (see #12i)	M	M	M	L	M	M	L	L	M	M	L	L	M	L	L	L	L	L	L	L

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

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

Comments: Many bird species were observed during the 2024 monitoring visit. Frogs, a turtle, and a raccoon were also observed.

14D. General Fish Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" such that the AA could be used by fish [i.e., fish use is precluded by perched culvert or other barrier, etc.]. If the AA is not used by fish, fish use is not restorable due to habitat constraints, or is not desired from a management perspective [such as fish entrapped in a canal], then mark ___ **NA** and proceed to 14E.)

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

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

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

Sources used for identifying fish sp. potentially found in AA: Direct observation

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

a) Is fish use of the AA significantly reduced by a culvert, dike, or other man-made structure or activity or is the waterbody included on the current final MDEQ list of waterbodies in need of TMDL development with listed "Probable Impaired Uses" including cold or warm water fishery or aquatic life support, or do aquatic nuisance plant or animal species (see Appendix E) occur in fish habitat? ___ If yes, reduce score in i above by 0.1.

*b) Does the AA contain a documented spawning area or other critical habitat feature (i.e., sanctuary pool, upwelling area, etc.- specify in comments) for native fish or introduced game fish? ___ If yes, add 0.1 to the adjusted score in **i** or **iia.***

iii. Final Score and Rating: 0.3L **Comments:** Increased inundation and bull rush establishment improved fish habitat in 2024. While the site was not designed to provide fish habitat, fish have been using the site.

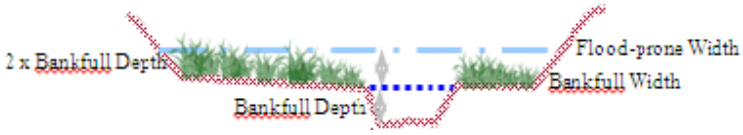
14E. Flood Attenuation: (Applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, mark ___ **NA** and proceed to 14F.)

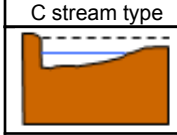
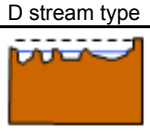
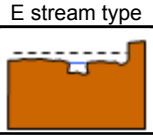
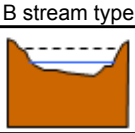
i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)

Estimated or Calculated Entrenchment (Rosgen 1994, 1996)	Slightly entrenched - C, D, E stream types			Moderately entrenched – B stream type			Entrenched-A, F, G stream types		
% of flooded wetland classified as forested and/or scrub/shrub	75%	25-75%	<25%	75%	25-75%	<25%	75%	25-75%	<25%
AA contains **no outlet or restricted outlet**	1H	.9H	.6M	.8H	.7M	**.5M**	.4M	.3L	.2L
AA contains **unrestricted outlet**	.9H	.8H	.5M	.7M	.6M	.4M	.3L	.2L	.1L

Entrenchment ratio (ER) estimation – see User's Manual for additional guidance. Entrenchment ratio = (flood-prone width)/(bankfull width) Flood-prone width = estimated horizontal projection of where 2 x maximum bankfull depth elevation intersects the floodplain on each side of the stream.

64 /	42 =	**1.52**
Flood-prone width	*Bankfull width*	*Entrenchment ratio (ER)*



Slightly Entrenched ER = >2.2			**Moderately Entrenched ER = 1.41 – 2.2**	**Entrenched ER = 1.0 – 1.4**		
C stream type	D stream type	E stream type	B stream type	A stream type	F stream type	G stream type
						

ii. Are ≥10 acres of wetland in the AA subject to flooding **AND** are man-made features which may be significantly damaged by floods located within 0.5 mile downstream of the AA (circle)? ___ **Comments:** The site provides flood attenuation functions for the adjacent Big Porcupine Creek.

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

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

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

Comments: Site has been moved into the seasonal/intermittent category due to dry conditions observed by MDT in October, 2024.

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

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H=high, M=moderate, or L=low])

Sediment, nutrient, and toxicant input levels within AA	AA receives or surrounding land use with potential to deliver levels of sediments, nutrients, or compounds at levels such that other functions are not substantially impaired. Minor sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.				Waterbody on MDEQ list of waterbodies in need of TMDL development for "probable causes" related to sediment, nutrients, or toxicants or AA receives or surrounding land use with potential to deliver high levels of sediments, nutrients, or compounds such that other functions are substantially impaired. Major sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.			
% cover of wetland vegetation in AA	>= 70%		< 70%		>= 70%		< 70%	
Evidence of flooding / ponding in AA	Yes	No	Yes	No	Yes	No	Yes	No
AA contains **no or restricted outlet**	1H	.8H	**.7M**	.5M	.5M	.4M	.3L	.2L
AA contains **unrestricted outlet**	.9H	.7M	.6M	.4M	.4M	.3L	.2L	.1L

Comments: Open/standing water was present across 48% of the site in 2024.

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

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

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

Comments: Shoreline has a significant amount of stabilizing vegetation when the water is high - at lower water levels, the shoreline is primarily bare mudflat.

14I. Production Export/Food Chain Support:

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

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

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

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

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

a) Is there an average >= 50 foot-wide vegetated upland buffer around >= 75% of the AA circumference? **X** *If yes, add 0.1 to the score in ii above.*

iv. Final Score and Rating: 0.70M **Comments:** Upland buffer between northern boundary of AA and highway greater than 50ft.

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

i. Discharge Indicators

___	The AA is a slope wetland
___	Springs or seeps are known or observed
X	Vegetation growing during dormant season/drought
___	Wetland occurs at the toe of a natural slope
___	AA permanently flooded during drought periods
___	Wetland contains an outlet, but no inlet
X	Shallow water table and the site is saturated to the surface
___	Other:

ii. Recharge Indicators

___	Permeable substrate present without underlying impeding layer
___	Wetland contains inlet but no outlet
___	Stream is a known 'losing' stream; discharge volume decreases
___	Other:

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

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

Comments: Site hydrology is combination of seasonally high groundwater table and runoff. Water is held on the site via an impoundment (dike).

14K. Uniqueness:

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

Replacement potential	AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland **or** plant association listed as "S1" by the MTNHP			AA does not contain previously cited rare types **and** structural diversity (#13) is high **or** contains plant association listed as "S2" by the MTNHP			AA does not contain previously cited rare types or associations **and** structural diversity (#13) is low-moderate		
Estimated relative abundance (#11)	rare	common	abundant	rare	common	abundant	rare	common	abundant
Low disturbance at AA (#12i)	1H	.9H	.8H	.8H	.6M	.5M	.5M	**.4M**	.3L
Moderate disturbance at AA (#12i)	.9H	.8H	.7M	.7M	.5M	.4M	.4M	.3L	.2L
High disturbance at AA (#12i)	.8H	.7M	.6M	.6M	.4M	.3L	.3L	.2L	.1L

Comments: AA is becoming less structurally diverse as vegetation intolerant to inundation dies off. However, some natural recruitment of cottonwoods is occurring in mesic areas.

14L. Recreation/Education Potential: (affords "bonus" points if AA provides recreation or education opportunity)

i. Is the AA a known or potential rec./ed. site: (circle) **X** (if 'Yes' continue with the evaluation; if 'No' then mark ___ **NA** and proceed to the overall summary and rating page)

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

iii. Rating:

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

Comments: Property is owned by MDT, and is easily accessible. Known bird and wildlife viewing and hunting use.

General Site Notes
Site provided highly valuable habitat to shorebirds and waterfowl in 2024, along with floodwater storage.

FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #(S): Forsyth NW- West

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: (Actual Points x Wetland Acreage)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	L	0.10	1	0.40	
B. MT Natural Heritage Program Species Habitat	H	0.90	1	3.61	*
C. General Wildlife Habitat	H	0.90	1	3.61	*
D. General Fish Habitat	L	0.30	1	1.20	
E. Flood Attenuation	M	0.50	1	2.01	
F. Short and Long Term Surface Water Storage	H	0.90	1	3.61	*
G. Sediment/Nutrient/Toxicant Removal	M	0.70	1	2.81	
H. Sediment/Shoreline Stabilization	M	0.60	1	2.41	
I. Production Export/Food Chain Support	M	0.70	1	2.81	*
J. Groundwater Discharge/Recharge	M	0.70	1	2.81	
K. Uniqueness	M	0.40	1	1.60	
L. Recreation/Education Potential (bonus points)	H	0.20	1	0.80	
Totals:		6.90	11.00	27.68	
Percent of Possible Score			63%		

Category I Wetland: (must satisfy one of the following criteria; otherwise go to Category II)

____ Score of 1 functional point for Listed/Proposed Threatened or Endangered Species; **or**
____ Score of 1 functional point for Uniqueness; **or**
____ Score of 1 functional point for Flood Attenuation and answer to Question 14E.ii is "yes"; **or**
____ Percent of possible score > 80% (round to nearest whole #).

Category II Wetland: (Criteria for Category I not satisfied and meets any one of the following criteria; otherwise go to Category IV)

____ Score of 1 functional point for MT Natural Heritage Program Species Habitat; **or**
__X__ Score of .9 or 1 functional point for General Wildlife Habitat; **or**
____ Score of .9 or 1 functional point for General Fish Habitat; **or**
____ "High" to "Exceptional" ratings for **both** General Wildlife Habitat **and** General Fish/Aquatic Habitat; **or**
____ Score of .9 functional point for Uniqueness; **or**
____ Percent of possible score > 65% (round to nearest whole #).

Category III Wetland: (Criteria for Categories I, II, or IV not satisfied)

Category IV Wetland: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; otherwise go to Category III)

____ "Low" rating for Uniqueness; **and**
____ Vegetated wetland component 1 acre (do not include upland vegetated buffer); **and**
____ Percent of possible score 35% (round to nearest whole #).

OVERALL ANALYSIS AREA RATING: II

Summary Comments: This site continues to evolve and develop more complex wetland habitat following several years of inundation.

MDT Montana Wetland Assessment Form (revised March 2008)

1. Project Name: Forsyth NW - Middle **2. MDT Project #:** STPP 14(9)259 **Control #:** 9680000

3. Evaluation Date: 06/10/2024 **4. Evaluator(s):** E Reynaud **5. Wetlands/Site #(s):** Forsyth NW- Middle

6. Wetland Location(s): i. Legal: T7N,R39E,33 ;T7N,R39E,34 **Latitude/Longitude:** 46.323159, -106.84301 : Center of AA

ii. Approx. Stationing or Mileposts: ~262.3 on US 12

iii. Watershed: 4

Watershed Name, County: Middle Yellowstone, Rosebud

7. a. Evaluating Agency: CCI for MDT

b. Purpose of Evaluation:

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

8. Wetland size: 0.550 acres (measured)

9. Assessment area (AA): 0.550 acres (measured)

10. Classification of Wetland and Aquatic Habitats in AA

HGM Class (Brinson)	Class (Cowardin)	Modifier (Cowardin)	Water Regime	% of AA
D	EM	E	SI	100.00

Abbreviations: *(see manual for definitions)*

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

Cowardin Classes: Rock Bottom (**RB**), Unconsolidated bottom (**UB**), Aquatic Bed (**AB**), Unconsolidated Shore (**US**), Moss-lichen Wetland (**ML**), Emergent Wetland (**EM**), Scrub-Shrub Wetland (**SS**), Forested Wetland (**FO**)

Modifiers: Excavated (**E**), Impounded (**I**), Diked (**D**), Partly Drained (**PD**), Farmed (**F**), Artificial (**A**)

Water Regimes: Permanent / Perennial (**PP**), Seasonal / Intermittent (**SI**), Temporary / Ephemeral (**TE**)

11. Estimated relative abundance: (of similarly classified sites within the same Major Montana Watershed Basin, see definitions)

ABUNDANT

12. General condition of AA:

i. Disturbance: (use matrix below to determine [circle] appropriate response – see instructions for Montana-listed noxious weed and aquatic nuisance vegetation species (**ANVS**) list)

Conditions within AA	*Predominant conditions adjacent to (within 500 feet of) AA*		
	Managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted; does not contain roads or buildings; and noxious weed or ANVS cover is >=15%.	Land not cultivated, but may be moderately grazed or hayed or selectively logged; or has been subject to minor clearing; contains few roads or buildings; noxious weed or ANVS cover is <= 30%.	Land cultivated or heavily grazed or logged; subject to substantial fill placement, grading, clearing, or hydrological alteration; high road or building density; or noxious weed or ANVS cover is > 30%.
AA occurs and is managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted; does not contain roads or occupied buildings; and noxious weed or ANVS cover is <= 15%.	low disturbance	low disturbance	moderate disturbance
AA not cultivated, but may be moderately grazed or hayed or selectively logged; or has been subject to relatively minor clearing, fill placement, or hydrological alteration; contains few roads or buildings; noxious weed or ANVS cover is <=	moderate disturbance	**moderate disturbance**	high disturbance
AA cultivated or heavily grazed or logged; subject to relatively substantial fill placement, grading, clearing, or hydrological alteration; high road or building density; or noxious weed or ANVS cover is > 30%.	high disturbance	high disturbance	high disturbance

Comments: (types of disturbance, intensity, season, etc.): Site is adjacent to a highway. The adjacent right-of-way is mowed, sprayed for weeds and plowed.

ii. Prominent noxious, aquatic nuisance, & other exotic vegetation species: Canada thistle and field bindweed cover have increased since 2023.

iii. Provide brief descriptive summary of AA and surrounding land use/habitat: AA very similar to Forsyth NW - East, only smaller. AA includes a linear, excavated roadside depression parallel to US 12. Surrounding land includes agriculture (grazing) and highway.

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

Existing # of "Cowardin" Vegetated Classes in AA	**Initial Rating**	**Is current management preventing (passive) existence of additional vegetated classes?**		**Modified Rating**
>= 3 (or 2 if 1 is forested) classes	H	NA	NA	NA
2 (or 1 if forested) classes	M	NA	NA	NA
1 class, but not a monoculture	**M**	<-- NO	YES -->	L
1 class, monoculture (1 species comprises >= 90% of total cover)	L	NA	NA	NA

Comments: PEM wetland, willow growth increasing yearly.

SECTION PERTAINING to FUNCTIONS & VALUES ASSESSMENT

14A. Habitat for Federally Listed or Proposed Threatened or Endangered Plants or Animals:

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

Primary or critical habitat (list species)	**Secondary habitat (list species)**	**Incidental habitat (list species)**
		Monarch butterfly(S)

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

Highest Habitat Level	*doc/primary*	*sus/primary*	*doc/secondary*	*sus/secondary*	*doc/incidental*	*sus/incidental*	*None*
Functional Points and Rating	1H	.9H	.8M	.7M	.3L	**.1L**	0L

Sources for documented use (e.g. observations, records, etc): USFWS, 2024

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

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

Primary or critical habitat (list species)	**Secondary habitat (list species)**	**Incidental habitat (list species)**
Scarlet Ammannia - Ammannia robusta		Great Blue Heron(S) - S2S3

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

Highest Habitat Level	*doc/primary*	*sus/primary*	*doc/secondary*	*sus/secondary*	*doc/incidental*	*sus/incidental*	*None*
***S1 Species:** Functional Points and Rating*	1H	.8H	.7M	.6M	.2L	.1L	0L
***S2 and S3 Species:** Functional Points and Rating*	**.9H**	.7M	.6M	.5M	.2L	.1L	0L

Sources for documented use (e.g. observations, records, etc): MTNHP, 2024

14C. General Wildlife Habitat Rating:

i. Evidence of overall wildlife use in the AA (circle substantial, moderate, or low based on supporting evidence):

Substantial (based on any of the following [check]):
- ___ observations of abundant wildlife #s or high species diversity (during any period)
- ___ abundant wildlife sign such as scat, tracks, nest structures, game trails, etc.
- ___ presence of extremely limiting habitat features not available in the surrounding area
- ___ interviews with local biologists with knowledge of the AA

Minimal (based on any of the following [check]):
- X few or no wildlife observations during peak use periods
- X little to no wildlife sign
- ___ sparse adjacent upland food sources
- ___ interviews with local biologists with knowledge of the AA

Moderate (based on any of the following [check]):
- ___ observations of scattered wildlife groups or individuals or relatively few species during peak periods
- ___ common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, etc.
- ___ adequate adjacent upland food sources
- ___ interviews with local biologists with knowledge of the AA

ii. Wildlife habitat features (Working from top to bottom, circle appropriate AA attributes in matrix to arrive at rating. Structural diversity is from #13. For class cover to be considered evenly distributed, the most and least prevalent vegetated classes must be within 20% of each other interms of their percent composition of the AA (see #10). Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; T/E = temporary/ephemeral; and A = absent [see instructions for further definitions of these terms])

Structural diversity (see #13)	High								Moderate								Low			
Class cover distribution (all vegetated classes)	Even				Uneven				Even				Uneven				Even			
Duration of surface water in >=10% of AA	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A
Low disturbance at AA (see #12i)	E	E	E	H	E	E	H	H	E	H	H	M	E	H	M	M	E	H	M	M
Moderate disturbance at AA (see #12i)	H	H	H	H	H	H	H	M	H	**H**	M	M	H	M	M	L	H	M	L	L
High disturbance at AA (see #12i)	M	M	M	L	M	M	L	L	M	M	L	L	M	L	L	L	L	L	L	L

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

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

Comments: This area is close to the roadway and will likely never achieve a high wildlife habitat rating.

14D. General Fish Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" such that the AA could be used by fish [i.e., fish use is precluded by perched culvert or other barrier, etc.]. If the AA is not used by fish, fish use is not restorable due to habitat constraints, or is not desired from a management perspective [such as fish entrapped in a canal], then mark **X NA** and proceed to 14E.)

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

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

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

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

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

a) Is fish use of the AA significantly reduced by a culvert, dike, or other man-made structure or activity or is the waterbody included on the current final MDEQ list of waterbodies in need of TMDL development with listed "Probable Impaired Uses" including cold or warm water fishery or aquatic life support, or do aquatic nuisance plant or animal species (see Appendix E) occur in fish habitat? ___ If yes, reduce score in i above by 0.1.

*b) Does the AA contain a documented spawning area or other critical habitat feature (i.e., sanctuary pool, upwelling area, etc.- specify in comments) for native fish or introduced game fish? ___ If yes, add 0.1 to the adjusted score in **i** or **iia.***

iii. Final Score and Rating: NA **Comments:** Not applicable.

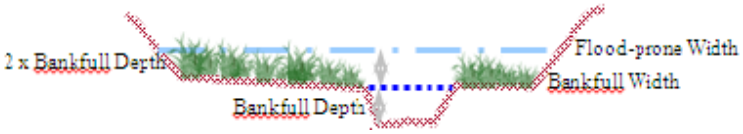
14E. Flood Attenuation: (Applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, mark ___ **NA** and proceed to 14F.)

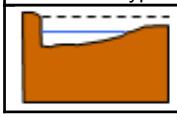
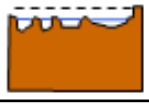
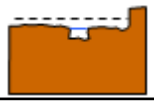
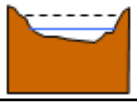
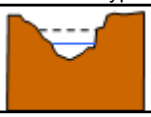
i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)

Estimated or Calculated Entrenchment (Rosgen 1994, 1996)	Slightly entrenched - C, D, E stream types			Moderately entrenched – B stream type			Entrenched-A, F, G stream types		
% of flooded wetland classified as forested and/or scrub/shrub	75%	25-75%	<25%	75%	25-75%	<25%	75%	25-75%	<25%
AA contains **no outlet or restricted outlet**	1H	.9H	.6M	.8H	.7M	**.5M**	.4M	.3L	.2L
AA contains **unrestricted outlet**	.9H	.8H	.5M	.7M	.6M	.4M	.3L	.2L	.1L

Entrenchment ratio (ER) estimation – see User's Manual for additional guidance. Entrenchment ratio = (flood-prone width)/(bankfull width) Flood-prone width = estimated horizontal projection of where 2 x maximum bankfull depth elevation intersects the floodplain on each side of the stream.

64 /	42 =	**1.52**
Flood-prone width	*Bankfull width*	*Entrenchment ratio (ER)*



Slightly Entrenched ER = >2.2			**Moderately Entrenched ER = 1.41 – 2.2**	**Entrenched ER = 1.0 – 1.4**		
C stream type	D stream type	E stream type	B stream type	A stream type	F stream type	G stream type
						

ii. Are ≥10 acres of wetland in the AA subject to flooding **AND** are man-made features which may be significantly damaged by floods located within 0.5 mile downstream of the AA (circle)? ___ **Comments:** AA is subject to overbank flows from Big Porcupine Creek.

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

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

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

Comments: AA subject to ponding from snowmelt, precipitation and overland flow from adjacent roads and uplands.

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

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H=high, M=moderate, or L=low])

Sediment, nutrient, and toxicant input levels within AA	AA receives or surrounding land use with potential to deliver levels of sediments, nutrients, or compounds at levels such that other functions are not substantially impaired. Minor sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.				Waterbody on MDEQ list of waterbodies in need of TMDL development for "probable causes" related to sediment, nutrients, or toxicants or AA receives or surrounding land use with potential to deliver high levels of sediments, nutrients, or compounds such that other functions are substantially impaired. Major sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.			
% cover of wetland vegetation in AA	>= 70%		< 70%		>= 70%		< 70%	
Evidence of flooding / ponding in AA	Yes	No	Yes	No	Yes	No	Yes	No
AA contains **no or restricted outlet**	1H	**.8H**	.7M	.5M	.5M	.4M	.3L	.2L
AA contains **unrestricted outlet**	.9H	.7M	.6M	.4M	.4M	.3L	.2L	.1L

Comments: Enclosed basin will filter sediment, nutrients, and toxicants well.

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, **X** **NA** and proceed to 14I.)

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

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

Comments: Not applicable.

14I. Production Export/Food Chain Support:

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

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

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

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

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

a) Is there an average >= 50 foot-wide vegetated upland buffer around >= 75% of the AA circumference? ___*If yes, add 0.1 to the score in ii above.*

iv. Final Score and Rating: 0.30L **Comments:** Site has limited food chain value.

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

i. Discharge Indicators

_____ The AA is a slope wetland
_____ Springs or seeps are known or observed
_____ Vegetation growing during dormant season/drought
_____ Wetland occurs at the toe of a natural slope
_____ AA permanently flooded during drought periods
_____ Wetland contains an outlet, but no inlet
_____ Shallow water table and the site is saturated to the surface
_____ Other:

ii. Recharge Indicators

_____ Permeable substrate present without underlying impeding layer
_____ Wetland contains inlet but no outlet
_____ Stream is a known 'losing' stream; discharge volume decreases
_____ Other:

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

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

Comments: AA without permeable substrate, holds surface water eventually lost to evaporation.

14K. Uniqueness:

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

Replacement potential	AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland **or** plant association listed as "S1" by the MTNHP			AA does not contain previously cited rare types **and** structural diversity (#13) is high **or** contains plant association listed as "S2" by the MTNHP			AA does not contain previously cited rare types or associations **and** structural diversity (#13) is low-moderate		
Estimated relative abundance (#11)	rare	common	abundant	rare	common	abundant	rare	common	abundant
Low disturbance at AA (#12i)	1H	.9H	.8H	.8H	.6M	.5M	.5M	.4M	.3L
Moderate disturbance at AA (#12i)	.9H	.8H	.7M	.7M	.5M	.4M	.4M	.3L	**.2L**
High disturbance at AA (#12i)	.8H	.7M	.6M	.6M	.4M	.3L	.3L	.2L	.1L

Comments: Habitat within AA typical of roadside wetland ditch.

14L. Recreation/Education Potential: (affords "bonus" points if AA provides recreation or education opportunity)

i. Is the AA a known or potential rec./ed. site: (circle) ___ (if 'Yes' continue with the evaluation; if 'No' then mark **X** **NA** and proceed to the overall summary and rating page)

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

iii. Rating:

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

Comments: AA small, adjacent to highway, and with no recreation or education potential.

General Site Notes
Wetland acreage decreased in 2024 by 0.03-acre. Noxious weed cover increased in 2024.

FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #(S): Forsyth NW- Middle

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: (Actual Points x Wetland Acreage)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	L	0.10	1	0.06	
B. MT Natural Heritage Program Species Habitat	H	0.90	1	0.50	*
C. General Wildlife Habitat	M	0.40	1	0.22	*
D. General Fish Habitat	NA				
E. Flood Attenuation	M	0.50	1	0.28	
F. Short and Long Term Surface Water Storage	L	0.30	1	0.17	*
G. Sediment/Nutrient/Toxicant Removal	H	0.80	1	0.44	*
H. Sediment/Shoreline Stabilization	NA				
I. Production Export/Food Chain Support	L	0.30	1	0.17	
J. Groundwater Discharge/Recharge	NA				
K. Uniqueness	L	0.20	1	0.11	
L. Recreation/Education Potential (bonus points)	NA				
Totals:		3.50	8.00	1.95	
Percent of Possible Score			44%		

Category I Wetland: (must satisfy one of the following criteria; otherwise go to Category II)
____ Score of 1 functional point for Listed/Proposed Threatened or Endangered Species; **or**
____ Score of 1 functional point for Uniqueness; **or**
____ Score of 1 functional point for Flood Attenuation and answer to Question 14E.ii is "yes"; **or**
____ Percent of possible score > 80% (round to nearest whole #).

Category II Wetland: (Criteria for Category I not satisfied and meets any one of the following criteria; otherwise go to Category IV)
____ Score of 1 functional point for MT Natural Heritage Program Species Habitat; **or**
____ Score of .9 or 1 functional point for General Wildlife Habitat; **or**
____ Score of .9 or 1 functional point for General Fish Habitat; **or**
____ "High" to "Exceptional" ratings for **both** General Wildlife Habitat **and** General Fish/Aquatic Habitat; **or**
____ Score of .9 functional point for Uniqueness; **or**
____ Percent of possible score > 65% (round to nearest whole #).

Category III Wetland: (Criteria for Categories I, II, or IV not satisfied)

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

OVERALL ANALYSIS AREA RATING: III

Summary Comments: Marginal wetland site that provides limited ecological value.

MDT Montana Wetland Assessment Form (revised March 2008)

1. Project Name: Forsyth NW - East

2. MDT Project #: STPP 14(9)259 **Control #:** 9680000

3. Evaluation Date: 06/10/2024 **4. Evaluator(s):** E Reynaud

5. Wetlands/Site #(s): Forsyth NW - East

6. Wetland Location(s): i. Legal: T7N,R39E,34 **Latitude/Longitude:** 46.319774, -106.836602 : Center of AA

ii. Approx. Stationing or Mileposts: ~262.3 on US 12

iii. Watershed: 13

Watershed Name, County: Middle Yellowstone, Rosebud

7. a. Evaluating Agency: CCI for MDT

b. Purpose of Evaluation:

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

8. Wetland size: 0.820 acres (measured)

9. Assessment area (AA): 0.820 acres (measured)

10. Classification of Wetland and Aquatic Habitats in AA

HGM Class (Brinson)	Class (Cowardin)	Modifier (Cowardin)	Water Regime	% of AA
D	EM	E	SI	100.00

Abbreviations: *(see manual for definitions)*

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

Cowardin Classes: Rock Bottom (**RB**), Unconsolidated bottom (**UB**), Aquatic Bed (**AB**), Unconsolidated Shore (**US**), Moss-lichen Wetland (**ML**), Emergent Wetland (**EM**), Scrub-Shrub Wetland (**SS**), Forested Wetland (**FO**)

Modifiers: Excavated (**E**), Impounded (**I**), Diked (**D**), Partly Drained (**PD**), Farmed (**F**), Artificial (**A**)

Water Regimes: Permanent / Perennial (**PP**), Seasonal / Intermittent (**SI**), Temporary / Ephemeral (**TE**)

11. Estimated relative abundance: (of similarly classified sites within the same Major Montana Watershed Basin, see definitions)

ABUNDANT

12. General condition of AA:

i. Disturbance: (use matrix below to determine [circle] appropriate response – see instructions for Montana-listed noxious weed and aquatic nuisance vegetation species (**ANVS**) list)

Conditions within AA	*Predominant conditions adjacent to (within 500 feet of) AA*		
	Managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted; does not contain roads or buildings; and noxious weed or ANVS cover is >=15%.	Land not cultivated, but may be moderately grazed or hayed or selectively logged; or has been subject to minor clearing; contains few roads or buildings; noxious weed or ANVS cover is <= 30%.	Land cultivated or heavily grazed or logged; subject to substantial fill placement, grading, clearing, or hydrological alteration; high road or building density; or noxious weed or ANVS cover is > 30%.
AA occurs and is managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted; does not contain roads or occupied buildings; and noxious weed or ANVS cover is <= 15%.	low disturbance	low disturbance	moderate disturbance
AA not cultivated, but may be moderately grazed or hayed or selectively logged; or has been subject to relatively minor clearing, fill placement, or hydrological alteration; contains few roads or buildings; noxious weed or ANVS cover is <=	moderate disturbance	**moderate disturbance**	high disturbance
AA cultivated or heavily grazed or logged; subject to relatively substantial fill placement, grading, clearing, or hydrological alteration; high road or building density; or noxious weed or ANVS cover is > 30%.	high disturbance	high disturbance	high disturbance

Comments: (types of disturbance, intensity, season, etc.): AA is a seasonal/intermittent depressional wetland adjacent to US 12.

ii. Prominent noxious, aquatic nuisance, & other exotic vegetation species: Convolvulus arvensis

iii. Provide brief descriptive summary of AA and surrounding land use/habitat: AA is a roadside depression excavated parallel to US 12. Surrounding land includes agriculture (grazing) and a secondary highway.

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

Existing # of "Cowardin" Vegetated Classes in AA	**Initial Rating**	**Is current management preventing (passive) existence of additional vegetated classes?**		**Modified Rating**
>= 3 (or 2 if 1 is forested) classes	H	NA	NA	NA
2 (or 1 if forested) classes	M	NA	NA	NA
1 class, but not a monoculture	**M**	<-- NO	YES -->	L
1 class, monoculture (1 species comprises >= 90% of total cover)	L	NA	NA	NA

Comments: Emergent vegetation is dominant but cottonwood saplings and willows are becoming well established. Some portions of the site may eventually transition to PSS.

SECTION PERTAINING to FUNCTIONS & VALUES ASSESSMENT

14A. Habitat for Federally Listed or Proposed Threatened or Endangered Plants or Animals:

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

Primary or critical habitat (list species)	**Secondary habitat (list species)**	**Incidental habitat (list species)**
		Monarch butterfly(S)

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

Highest Habitat Level	*doc/primary*	*sus/primary*	*doc/secondary*	*sus/secondary*	*doc/incidental*	*sus/incidental*	*None*
Functional Points and Rating	1H	.9H	.8M	.7M	.3L	**.1L**	0L

Sources for documented use (e.g. observations, records, etc): USFWS, 2024

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

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

Primary or critical habitat (list species)	**Secondary habitat (list species)**	**Incidental habitat (list species)**
Scarlet Ammannia - Ammannia robusta,		Great Blue Heron(S) - S2S3

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

Highest Habitat Level	*doc/primary*	*sus/primary*	*doc/secondary*	*sus/secondary*	*doc/incidental*	*sus/incidental*	*None*
***S1 Species:** Functional Points and Rating*	1H	.8H	.7M	.6M	.2L	.1L	0L
***S2 and S3 Species:** Functional Points and Rating*	**.9H**	.7M	.6M	.5M	.2L	.1L	0L

Sources for documented use (e.g. observations, records, etc): MTNHP, 2024

14C. General Wildlife Habitat Rating:

i. Evidence of overall wildlife use in the AA (circle substantial, moderate, or low based on supporting evidence):

Substantial (based on any of the following [check]):
- ___ observations of abundant wildlife #s or high species diversity (during any period)
- ___ abundant wildlife sign such as scat, tracks, nest structures, game trails, etc.
- ___ presence of extremely limiting habitat features not available in the surrounding area
- ___ interviews with local biologists with knowledge of the AA

Minimal (based on any of the following [check]):
- X few or no wildlife observations during peak use periods
- X little to no wildlife sign
- ___ sparse adjacent upland food sources
- ___ interviews with local biologists with knowledge of the AA

Moderate (based on any of the following [check]):
- ___ observations of scattered wildlife groups or individuals or relatively few species during peak periods
- ___ common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, etc.
- ___ adequate adjacent upland food sources
- ___ interviews with local biologists with knowledge of the AA

ii. Wildlife habitat features (Working from top to bottom, circle appropriate AA attributes in matrix to arrive at rating. Structural diversity is from #13. For class cover to be considered evenly distributed, the most and least prevalent vegetated classes must be within 20% of each other interms of their percent composition of the AA (see #10). Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; T/E = temporary/ephemeral; and A = absent [see instructions for further definitions of these terms])

Structural diversity (see #13)	High								Moderate								Low			
Class cover distribution (all vegetated classes)	Even				Uneven				Even				Uneven				Even			
Duration of surface water in >=10% of AA	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A
Low disturbance at AA (see #12i)	E	E	E	H	E	E	H	H	E	H	H	M	E	H	M	M	E	H	M	M
Moderate disturbance at AA (see #12i)	H	H	H	H	H	H	H	M	H	**H**	M	M	H	M	M	L	H	M	L	L
High disturbance at AA (see #12i)	M	M	M	L	M	M	L	L	M	M	L	L	M	L	L	L	L	L	L	L

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

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

Comments: This area is close to the roadway and will likely never achieve a high wildlife habitat rating.

14D. General Fish Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" such that the AA could be used by fish [i.e., fish use is precluded by perched culvert or other barrier, etc.]. If the AA is not used by fish, fish use is not restorable due to habitat constraints, or is not desired from a management perspective [such as fish entrapped in a canal], then mark **X** **NA** and proceed to 14E.)

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

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

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

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

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

a) Is fish use of the AA significantly reduced by a culvert, dike, or other man-made structure or activity or is the waterbody included on the current final MDEQ list of waterbodies in need of TMDL development with listed "Probable Impaired Uses" including cold or warm water fishery or aquatic life support, or do aquatic nuisance plant or animal species (see Appendix E) occur in fish habitat? ___ *If yes, reduce score in i above by 0.1.*

b) Does the AA contain a documented spawning area or other critical habitat feature (i.e., sanctuary pool, upwelling area, etc.- specify in comments) for native fish or introduced game fish? ___ *If yes, add 0.1 to the adjusted score in **i** or **iia.***

iii. Final Score and Rating: NA **Comments:** No fish habitat exists on site.

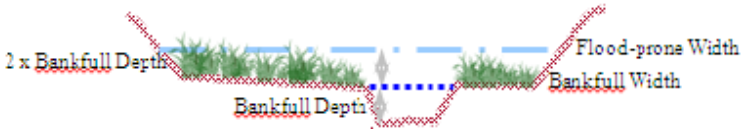
14E. Flood Attenuation: (Applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, mark ___ **NA** and proceed to 14F.)

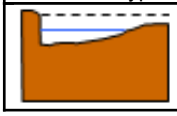
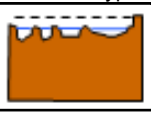
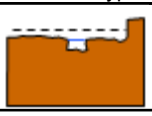
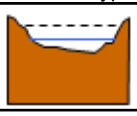
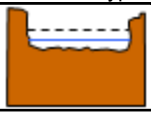
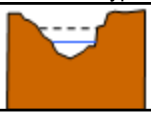
i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)

Estimated or Calculated Entrenchment (Rosgen 1994, 1996)	Slightly entrenched - C, D, E stream types			Moderately entrenched – B stream type			Entrenched-A, F, G stream types		
% of flooded wetland classified as forested and/or scrub/shrub	75%	25-75%	<25%	75%	25-75%	<25%	75%	25-75%	<25%
AA contains **no outlet or restricted outlet**	1H	.9H	.6M	.8H	.7M	**.5M**	.4M	.3L	.2L
AA contains **unrestricted outlet**	.9H	.8H	.5M	.7M	.6M	.4M	.3L	.2L	.1L

Entrenchment ratio (ER) estimation – see User's Manual for additional guidance. Entrenchment ratio = (flood-prone width)/(bankfull width) Flood-prone width = estimated horizontal projection of where 2 x maximum bankfull depth elevation intersects the floodplain on each side of the stream.

64 /	42 =	**1.52**
Flood-prone width	*Bankfull width*	*Entrenchment ratio (ER)*



Slightly Entrenched ER = >2.2			**Moderately Entrenched ER = 1.41 – 2.2**	**Entrenched ER = 1.0 – 1.4**		
C stream type	D stream type	E stream type	B stream type	A stream type	F stream type	G stream type
						

ii. Are ≥10 acres of wetland in the AA subject to flooding **AND** are man-made features which may be significantly damaged by floods located within 0.5 mile downstream of the AA (circle)? ___ **Comments:** AA subject to overbank flows from Big Porcupine Creek.

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

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

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

Comments: AA subject to ponding following large precipitation or runoff events. Portions of depression inundated during 2024 monitoring visit.

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

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H=high, M=moderate, or L=low])

Sediment, nutrient, and toxicant input levels within AA	AA receives or surrounding land use with potential to deliver levels of sediments, nutrients, or compounds at levels such that other functions are not substantially impaired. Minor sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.				Waterbody on MDEQ list of waterbodies in need of TMDL development for "probable causes" related to sediment, nutrients, or toxicants or AA receives or surrounding land use with potential to deliver high levels of sediments, nutrients, or compounds such that other functions are substantially impaired. Major sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.			
% cover of wetland vegetation in AA	>= 70%		< 70%		>= 70%		< 70%	
Evidence of flooding / ponding in AA	Yes	No	Yes	No	Yes	No	Yes	No
AA contains **no or restricted outlet**	**1H**	.8H	.7M	.5M	.5M	.4M	.3L	.2L
AA contains **unrestricted outlet**	.9H	.7M	.6M	.4M	.4M	.3L	.2L	.1L

Comments: Portions of depression inundated on 06/10/2024.

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, **X** **NA** and proceed to 14I.)

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

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

Comments: NA - no open water exists on site.

14I. Production Export/Food Chain Support:

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

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

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

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

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

a) Is there an average >= 50 foot-wide vegetated upland buffer around >= 75% of the AA circumference? ___**X** *If yes, add 0.1 to the score in ii above.*

iv. Final Score and Rating: 0.40M **Comments:** Food chain support and production and export is limited due to the size and location of the site.

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

i. Discharge Indicators

___	The AA is a slope wetland
___	Springs or seeps are known or observed
___	Vegetation growing during dormant season/drought
___	Wetland occurs at the toe of a natural slope
___	AA permanently flooded during drought periods
___	Wetland contains an outlet, but no inlet
X	Shallow water table and the site is saturated to the surface
X	Other: AA hydrologically connected to a historic oxbow.

ii. Recharge Indicators

___	Permeable substrate present without underlying impeding layer
___	Wetland contains inlet but no outlet
___	Stream is a known 'losing' stream; discharge volume decreases
___	Other:

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

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

Comments: Inundation was observed on site in 2024.

14K. Uniqueness:

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

Replacement potential	AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland **or** plant association listed as "S1" by the MTNHP			AA does not contain previously cited rare types **and** structural diversity (#13) is high **or** contains plant association listed as "S2" by the MTNHP			AA does not contain previously cited rare types or associations **and** structural diversity (#13) is low-moderate		
Estimated relative abundance (#11)	rare	common	abundant	rare	common	abundant	rare	common	abundant
Low disturbance at AA (#12i)	1H	.9H	.8H	.8H	.6M	.5M	.5M	.4M	.3L
Moderate disturbance at AA (#12i)	.9H	.8H	.7M	.7M	.5M	.4M	.4M	.3L	**.2L**
High disturbance at AA (#12i)	.8H	.7M	.6M	.6M	.4M	.3L	.3L	.2L	.1L

Comments: AA is part of a roadside ditch.

14L. Recreation/Education Potential: (affords "bonus" points if AA provides recreation or education opportunity)

i. Is the AA a known or potential rec./ed. site: (circle) ___ (if 'Yes' continue with the evaluation; if 'No' then mark **X** **NA** and proceed to the overall summary and rating page)

ii. Check categories that apply to the AA: ___Educational/scientific study; ___Consumptive rec.; ___Non-consumptive rec.; ___Other :

iii. Rating:

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

Comments: AA small, adjacent to highway, and with no recreation or education potential.

General Site Notes
Wetland acreage decreased by 0.04-acre in 2024.

FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #(S): Forsyth NW - East

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: (Actual Points x Wetland Acreage)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	L	0.10	1	0.08	
B. MT Natural Heritage Program Species Habitat	H	0.90	1	0.74	*
C. General Wildlife Habitat	M	0.40	1	0.33	
D. General Fish Habitat	NA				
E. Flood Attenuation	M	0.50	1	0.41	
F. Short and Long Term Surface Water Storage	M	0.60	1	0.49	*
G. Sediment/Nutrient/Toxicant Removal	H	1.00	1	0.82	*
H. Sediment/Shoreline Stabilization	NA				
I. Production Export/Food Chain Support	M	0.40	1	0.33	
J. Groundwater Discharge/Recharge	M	0.70	1	0.57	*
K. Uniqueness	L	0.20	1	0.16	
L. Recreation/Education Potential (bonus points)	NA				
Totals:		4.80	9.00	3.93	
Percent of Possible Score			53%		

Category I Wetland: (must satisfy one of the following criteria; otherwise go to Category II)
____ Score of 1 functional point for Listed/Proposed Threatened or Endangered Species; **or**
____ Score of 1 functional point for Uniqueness; **or**
____ Score of 1 functional point for Flood Attenuation and answer to Question 14E.ii is "yes"; **or**
____ Percent of possible score > 80% (round to nearest whole #).

Category II Wetland: (Criteria for Category I not satisfied and meets any one of the following criteria; otherwise go to Category IV)
____ Score of 1 functional point for MT Natural Heritage Program Species Habitat; **or**
____ Score of .9 or 1 functional point for General Wildlife Habitat; **or**
____ Score of .9 or 1 functional point for General Fish Habitat; **or**
____ "High" to "Exceptional" ratings for **both** General Wildlife Habitat **and** General Fish/Aquatic Habitat; **or**
____ Score of .9 functional point for Uniqueness; **or**
____ Percent of possible score > 65% (round to nearest whole #).

Category III Wetland: (Criteria for Categories I, II, or IV not satisfied)

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

OVERALL ANALYSIS AREA RATING: III

Summary Comments: The site remains a Category III wetland. No substantial changes were made from 2023 to 2024.

Table B-1. FNW-West Species List

Scientific Names	Common Names	GP Indicator Status[(a)]
Agropyron cristatum	Crested Wheatgrass	UPL
Algae, green	Algae, green	OBL
Alisma triviale	Northern Water-Plantain	OBL
Alopecurus arundinaceus	Creeping Meadow-Foxtail	FACW
Alopecurus pratensis	Field Meadow-Foxtail	FACW
Ambrosia psilostachya	Perennial Ragweed	FACU
Ammannia robusta	Grand Redstem	OBL
Artemisia frigida	Fringed Sage	UPL
Bassia scoparia	Mexican-Fireweed	FACU
Bromus arvensis	Japanese Brome	UPL
Bromus carinatus	California Brome	UPL
Bromus inermis	Smooth Brome	UPL
Bromus tectorum	Cheatgrass	UPL
Chenopodium album	Lamb's-Quarters	FACU
Chorispora tenella	Crossflower	UPL
Convolvulus arvensis	Field Bindweed	UPL
Descurainia pinnata	Western tanseymustard	UPL
Descurainia sophia	Herb Sophia	UPL
Echinochloa crus-galli	Large Barnyard Grass	FAC
Eleocharis palustris	Common Spike-Rush	OBL
Elymus canadensis	Nodding Wild Rye	FACU
Elymus repens	Creeping Wild Rye	FACU
Elymus sp.	Wild Rye	UPL
Elymus trachycaulus	Slender Wild Rye	FACU
Euphorbia esula	Leafy Spurge	UPL
Filago arvensis	Field Fluffweed	UPL
Glyceria elata	Tall Manna Grass	OBL
Grindelia squarrosa	Curly-Cup Gumweed	UPL
Helianthus annuus	Common Sunflower	FACU
Hesperostipa comata	Needle-and-Thread	UPL
Hordeum jubatum	Fox-Tail Barley	FACW
Lactuca serriola	Prickly Lettuce	FAC
Lepidium perfoliatum	Clasping Pepperwort	FAC
Linum lewisii	Prairie Flax	UPL
Medicago sativa	Alfalfa	UPL
Melilotus officinalis	Yellow Sweet-Clover	FACU

Muhlenbergia asperifolia	Alkali Muhly	FACW
Pascopyrum smithii	Western-Wheat Grass	FACU
Poa compressa	Flat-stem Blue Grass	FACU
Poa pratensis	Kentucky Blue Grass	FACU
Polygonum aviculare	Yard Knotweed	FACU
Populus deltoides	Eastern Cottonwood	FAC
Puccinellia nuttalliana	Nuttall's Alkali Grass	OBL
Ratibida columnifera	Prairie Coneflower	UPL
Rumex acetosella	Common Sheep Sorrel	FAC
Rumex crispus	Curly Dock	FAC
Sagittaria cuneata	Arum-Leaf Arrowhead	OBL
Salix exigua	Narrow-Leaf Willow	FACW
Salix fragilis	Fragile Willow	FAC
Schedonorous pratensis	Meadow False Rye Grass	FACU
Schoenoplectus maritimus	Saltmarsh Club-Rush	OBL
Sisymbrium altissimum	Tall Hedge-Mustard	FACU
Solanum rostratum	Buffalo Bur	UPL
Spartina pectinata	Freshwater Cord Grass	FACW
Tamarix chinensis	Five-Stamen Tamarisk	UPL
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
Veronica sp.	Speedwell	UPL

[(a)]2020 NWPL (USACE, 2020)

New species identified in 2024 are **bolded**

Table B-2. FNW-Middle Species List

Scientific Names	Common Names	GP Indicator Status[a]
Alisma triviale	Northern Water-Plantain	OBL
Alopecurus pratensis	Field Meadow-Foxtail	FACW
Ambrosia psilostachya	Perennial Ragweed	FACU
Ammannia robusta	Grand Redstem	OBL
Avena fatua	Wild Oats	UPL
Bassia scoparia	Mexican-Fireweed	FACU
Bromus arvensis	Japanese Brome	UPL
Bromus carinatus	California Brome	UPL
Bromus inermis	Smooth Brome	UPL
Bromus tectorum	Cheatgrass	UPL
Chenopodium album	Lamb's-Quarters	FACU
Cirsium arvense	Canadian Thistle	FACU
Convolvulus arvensis	Field Bindweed	UPL
Deschampsia caespitosa	Tufted Hair Grass	FACW
Deschampsia elongata	Slender Hair Grass	FAC
Echinochloa crus-galli	Large Barnyard Grass	FAC
Eleocharis palustris	Common Spike-Rush	OBL
Elymus canadensis	Nodding Wild Rye	FACU
Elymus elymoides	Western-Bottlebrush grass	FACU
Elymus lanceolatus	Streamside Wild Rye	FACU
Elymus repens	Creeping Wild Rye	FACU
Elymus trachycaulus	Slender Wild Rye	FACU
Euphorbia esula	Leafy Spurge	UPL
Filago arvensis	Field Fluffweed	UPL
Glyceria grandis	American Manna Grass	OBL
Grindelia squarrosa	Curly-Cup Gumweed	UPL
Helianthus annuus	Common Sunflower	FACU
Hordeum jubatum	Fox-Tail Barley	FACW
Iva axillaris	**Povertyweed**	**FAC**
Lactuca serriola	Prickly Lettuce	FAC
Lepidium perfoliatum	Clasping Pepperwort	FAC
Linum lewisii	Prairie Flax	UPL
Melilotus officinalis	Yellow Sweet-Clover	FACU
Muhlenbergia asperifolia	Alkali Muhly	FAC
Nassella viridula	Barkworth Green Needlegrass	UPL
Panicum capillare	Common Panic Grass	FAC

Panicum virgatum	**Switchgrass**	**FAC**
Pascopyrum smithii	Western-Wheat Grass	FACU
Poa compressa	Flat-Stem Blue Grass	FACU
Poa palustris	Fowl Blue Grass	FACW
Poa pratensis	Kentucky Blue Grass	FACU
Polygonum aviculare	Yard Knotweed	FACU
Populus deltoides	Eastern Cottonwood	FAC
Puccinellia nuttalliana	Nuttall's Alkali Grass	OBL
Ratibida columnifera	Prairie Coneflower	UPL
Rosa arkansana	Prairie Rose	FACU
Rumex acetosella	Common Sheep Sorrel	FAC
Rumex crispus	Curly Dock	FAC
Salix amygdaloides	Peach-Leaf Willow	FACW
Salix exigua	Narrow-Leaf Willow	FACW
Salix fragilis	Fragile Willow	FAC
Salix lutea	Yellow Willow	FACW
Sarcobatus vermiculatus	Greasewood	FAC
Schedonorus pratensis	Meadow False Rye Grass	FACU
Schoenoplectus maritimus	Saltmarsh Club-Rush	OBL
Setaria pumila	Yellow Bristle Grass	FACU
Solanum rostratum	Buffalo Bur	UPL
Symphoricarpos albus	Common Snowberry	UPL
Tamarix chinensis	Five-Stamen Tamarisk	UPL
Thlaspi arvense	Field Pennycress	FACU
Tragopogon dubius	Meadow Goat's-beard	UPL
Typha latifolia	Broad-Leaf Cat-Tail	OBL
Xanthium strumarium	Rough Cockleburr	FAC

[(a)]2020 NWPL (USACE, 2020)

New species identified in 2024 are **bolded**

Table B-3. FNW-East Species List

Scientific Names	Common Names	GP Indicator Status[(a)]
Agropyron cristatum	Crested Wheatgrass	UPL
Algae, green	Algae, green	UPL
Alisma triviale	Northern Water-Plantain	OBL
Alopecurus arundinaceus	Creeping Meadow-Foxtail	FACW
Alopecurus pratensis	Field Meadow-Foxtail	FACW
Ambrosia psilostachya	Perennial Ragweed	FACU
Ammannia robusta	Grand Redstem	OBL
Artemisia frigida	Fringed Sage	UPL
Bassia scoparia	Mexican-Fireweed	FACU
Bromus arvensis	Japanese Brome	UPL
Bromus carinatus	California Brome	UPL
Bromus inermis	Smooth Brome	UPL
Bromus japonicus	**Japanese Brome**	**UPL**
Bromus tectorum	Cheatgrass	UPL
Chenopodium album	Lamb's-Quarters	FACU
Convolvulus arvensis	Field Bindweed	UPL
Descurainia sophia	Herb Sophia	UPL
Echinochloa crus-galli	Large Barnyard Grass	FAC
Eleocharis palustris	Common Spike-Rush	OBL
Elymus canadensis	Nodding Wild Rye	FACU
Elymus repens	Creeping Wild Rye	FACU
Elymus sp.	Wild Rye	UPL
Elymus trachycaulus	Slender Wild Rye	FACU
Euphorbia esula	Leafy Spurge	UPL
Filago arvensis	Field Fluffweed	UPL
Glyceria elata	Tall Manna Grass	OBL
Grindelia squarrosa	Curly-Cup Gumweed	UPL
Helianthus annuus	Common Sunflower	FACU
Hesperostipa comata	Needle-and-Thread	UPL
Hordeum jubatum	Fox-Tail Barley	FACW
Lactuca serriola	Prickly Lettuce	FAC
Lepidium perfoliatum	Clasping Pepperwort	FAC
Linum lewisii	Prairie Flax	UPL
Medicago sativa	Alfalfa	UPL
Melilotus officinalis	Yellow Sweet-Clover	FACU
Muhlenbergia asperifolia	Alkali Muhly	FACW

Panicum virgatum	**Switchgrass**	**FAC**
Pascopyrum smithii	Western-Wheat Grass	FACU
Poa compressa	Flat-stem Blue Grass	FACU
Poa pratensis	Kentucky Blue Grass	FACU
Polygonum aviculare	Yard Knotweed	FACU
Populus deltoides	Eastern Cottonwood	FAC
Puccinellia nuttalliana	Nuttall's Alkali Grass	OBL
Ratibida columnifera	Prairie Coneflower	UPL
Rumex acetosella	Common Sheep Sorrel	FAC
Rumex crispus	Curly Dock	FAC
Sagittaria cuneata	Arum-Leaf Arrowhead	OBL
Salix amygdaloides	**Peachleaf Willow**	**FACW**
Salix exigua	Narrow-Leaf Willow	FACW
Salix fragilis	Fragile Willow	FAC
Schedonorous pratensis	Meadow False Rye Grass	FACU
Schoenoplectus maritimus	Saltmarsh Club-Rush	OBL
Sisymbrium altissimum	Tall Hedge-Mustard	FACU
Solanum rostratum	Buffalo Bur	UPL
Spartina pectinata	Freshwater Cord Grass	FACW
Tamarix chinensis	Five-Stamen Tamarisk	UPL
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
Veronica sp.	Speedwell	UPL

[(a)]2020 NWPL (USACE, 2020)

New species identified in 2024 are **bolded**

APPENDIX C
PROJECT AREA PHOTOGRAPHS

MDT Wetland Mitigation Monitoring
Forsyth Northwest – West, Middle, and East Sites
Rosebud County, Montana

Forsyth Northwest – West Site: Photo Point Photographs

Photo Point 1: Located near NE Corner of SE End; Bearing 270 degrees; Year: 2013

Photo Point 1: Located near NE Corner of SE End; Bearing 270 degrees; Year: 2024

Photo Point 2: Located near SW Corner of SE End; Bearing 350 degrees; Year: 2013

Photo Point 2: Located near SW Corner of SE End; Bearing 350 degrees; Year: 2024

Forsyth Northwest – West Site: Photo Point Photographs

Photo Point 3: Located on NE side near middle of site; Bearing 230 degrees; Year: 2013

Photo Point 3: Located on NE side near middle of site; Bearing 230 degrees; Year: 2024

Photo Point 4: Located near NE corner of NW end; Bearing 210 degrees; Year: 2013

Photo Point 4: Located near NE corner of NW end; Bearing 210 degrees; Year: 2024

Forsyth Northwest – West Site: Photo Point Photographs

Photo Point 5: Located on SW side near middle of site; Bearing 45 degrees; Year: 2013

Photo Point 5: Located on SW side near middle of site; Bearing 45 degrees; Year: 2024

Photo Point 6 **Location:** Center of new dike
Bearing: 300 degrees **Year:** 2017

Photo Point 6 **Location:** Center of new dike
Bearing: 300 degrees **Year:** 2024

Photo Point 6 **Location:** Center of new dike
Bearing: 120 degrees **Year:** 2017

Photo Point 6 **Location:** Center of new dike
Bearing: 120 degrees **Year:** 2024

Forsyth Northwest – West Site: Transect Photographs

Transect 1: Start **Location:** SE end of site
Bearing: 25 degrees **Year:** 2013

Transect 1: Start **Location:** SE end of site
Bearing: 25 degrees **Year:** 2024

Transect 1: End **Location:** SE end
Bearing: 205 degrees **Year:** 2013

Transect 1: End **Location:** SE end
Bearing: 205 degrees **Year:** 2024

Transect 2: Start **Location:** NW End
Bearing: 25 degrees **Year:** 2013

Transect 2: Start **Location:** NW End
Bearing: 25 degrees **Year:** 2024

Forsyth Northwest – West Site: Transect and Data Point Photographs

Transect 2: End
Bearing: 205 degrees
Location: Northwest End
Year: 2013

Transect 2: End
Bearing: 205 degrees
Location: Northwest End
Year: 2024

Data Point: DP01w
Location: SE side of site
Year: 2024

Data Point: DP01u
Location: SE side of site
Year: 2024

Data point: DP02w
Location: SW Side
Year: 2024

Data point: DP02u
Location: SW Side
Year: 2024

Forsyth Northwest – West Site: Data Point Photographs

Data Point: DP03w **Location:** NW side of site
Year: 2024

Data Point: DP03u **Location:** NW side of site
Year: 2024

Additional Photo 1: **Location:** SE side of site
bank erosion along S fence line
Year: 2024

Additional Photo 2: **Location:** SE side of site
bank erosion along dike
Year: 2024

Forsyth Northwest – Middle: Photo Point and Transect Photographs

Photo Point: 1 **Location:** Northwest End
Bearing: 120 degrees **Year:** 2013

Photo Point: 1 **Location:** Northwest End
Bearing: 120 degrees **Year:** 2024

Photo Point: 2 **Location:** Southeast end
Bearing: 300 degrees **Year:** 2013

Photo Point: 2 **Location:** Southeast end
Bearing: 300 degrees **Year:** 2024

Transect 1: Start **Location:** Middle of Site
Bearing: 205 degrees **Year:** 2013

Transect 1: Start **Location:** Middle of Site
Bearing: 205 degrees **Year:** 2024

Forsyth Northwest – Middle: Transect and Data Point Photographs

Transect 1: End
Bearing: 25 degrees

Location: Middle of Site
Year: 2013

Transect 1: End
Bearing: 25 degrees

Location: Middle of Site
Year: 2024

Data Point: DP01w
Year: 2024

Location: Southwest end

Data Point: DP01u
Year: 2024

Location: Southwest end

Data Point: DP02w
Year: 2024

Location: Northeast end

Data Point: DP02u
Year: 2024

Location: Northeast end

Forsyth Northwest – East Site: Photo Point Photographs

Photo Point: 1 **Location**: NW end of site
Bearing: 125 degrees **Year:** 2013

Photo Point: 1 **Location:** NW end of site
Bearing: 125 degrees **Year**: 2024

Photo Point 2: Located near Center of Site along the northwest boundary; Bearing 210 degrees; Year: 2013

Photo Point 2: Located near Center of Site along the northwest boundary; Bearing 210 degrees; Year: 2024

Photo Point: 3 **Location:** SE end of site
Bearing: 305 degrees **Year**: 2013

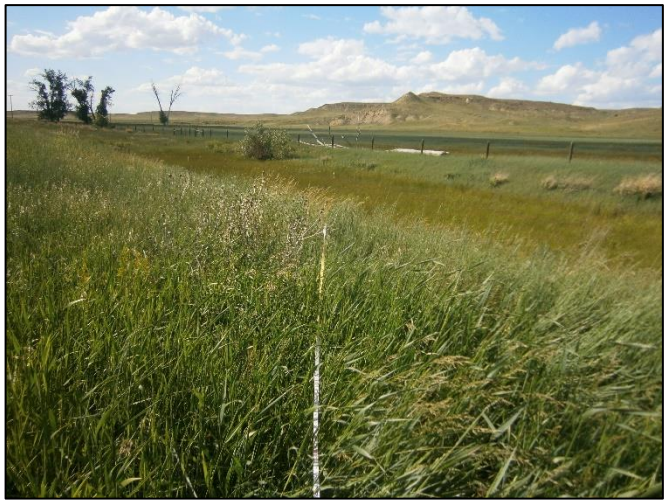
Photo Point: 3 **Location:** SE end of site
Bearing: 305 degrees **Year:** 2024

Forsyth Northwest – East Site: Transect Photographs

Transect 1: Start **Location:** NW end of site
Bearing: 145 degrees **Year:** 2013

Transect 1: Start **Location:** NW end of site
Bearing: 145 degrees **Year:** 2024

Transect 1: End **Location:** NW end of site
Bearing: 325 degrees **Year**: 2013



Transect 1: End **Location**: NW end of site
Bearing: 325 degrees **Year:** 2024

Transect 2: Start **Location:** SE end of site
Bearing: 280 degrees **Year:** 2013

Transect 2: Start **Location:** SE end of site
Bearing: 280 degrees **Year:** 2024

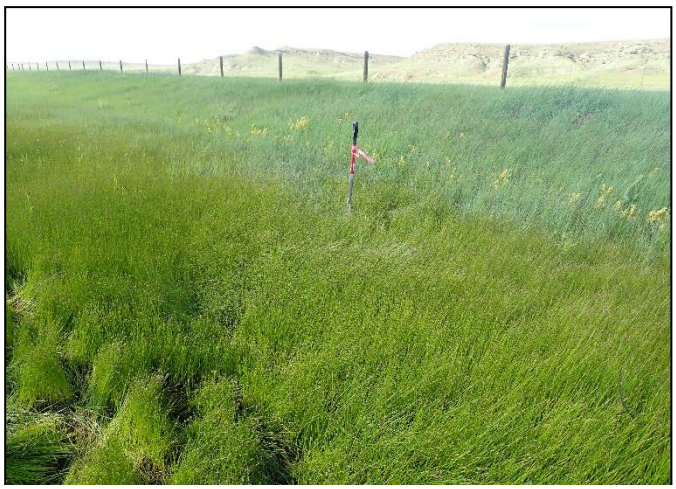
Forsyth Northwest – East Site: Transect and Data Point Photographs

Transect 2: End **Location:** SE end of site
Bearing: 100 degrees **Year:** 2013

Transect 2: End **Location:** SE end of site
Bearing: 100 degrees **Year:** 2024

Data point: DP01w **Location:** NW end of site
Year: 2024

Data point: DP01u **Location**: NW end of site
Year: 2024



Data point: DP02w **Location:** N side of site
Year: 2024

Data point: DP02u **Location:** N side of site
Year: 2024

Forsyth Northwest – East Site: Data Point Photographs

Data point: DP03w **Location:** SE side of site
Year: 2024

Data point: DP03u **Location:** SE side of site
Year: 2024