ECS Southwest, LLP

Wetland Delineation

REDI Arkansas Manufacturing Center
Miller County Road 64 and US Highway 67
Texarkana, Arkansas 71854

For: AR-TX REDI
2900 Saint Michael Drive
5th Floor
Texarkana, Texas 75503

ECS Project No. 51:2106-A (Rev. 1)

April 2, 2021 (Revised November 9, 2021)

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Mr. Rob Sitterley
AR-TX REDI
2900 Saint Michael Drive
5th Floor
Texarkana, Texas 75503

ECS Project No. 51:2106-A (Rev. 1)

Reference: Wetland Delineation – Arkansas Manufacturing Center – Miller County Road 64 and US Highway 67, Texarkana, Miller County, Arkansas 71854

Dear Mr. Sitterley:

ECS Southwest, LLP (ECS) is pleased to submit this report of the Wetland Delineation services for the above-referenced site. ECS' services were provided in general accordance with ECS Proposal No. 51:2133 authorized on February 2, 2021 and generally meet the requirements of the 1987 U.S. Army Corps of Engineers (USACE) Wetlands Delineation Manual, and the Regional Supplement to the USACE Wetland Delineation Manual: Atlantic and Gulf Coastal Plain, Version 2.0 date March 2010. ***Based on our wetland delineation, it is ECS's opinion that potentially jurisdictional Waters of the U.S. (WOUS) are present on the Project site*. However, final authority in determining jurisdiction of features, including significant nexus decisions, rests with the U.S. Army Corps of Engineers.**

Upon your request, we will contact the USACE to schedule a field meeting to conduct a Waters of the U.S. (WOUS) boundary confirmation and jurisdictional determination. This process takes anywhere from a few weeks to six (6) months, depending on the availability of USACE personnel. After the boundaries of the waters of the U.S. have been confirmed by the USACE, we suggest that the areas be surveyed for future planning purposes and be submitted to the USACE as a final record. If any potential impacts are proposed, we can assist you with permitting options and support to complete the process.

ECS would like to thank AR-TX REDI for the opportunity to provide you with this Wetland Delineation. We look forward to assisting you further with this project and other environmental concerns you may have. If you have any questions, please feel free to contact us at any time at 512-837-8005.

Sincerely,

ECS SOUTHWEST, LLP

Roger S. Willis II, M.S.
Environmental Project Manager

Craig W. Hiatt, M.S.
Director of Environmental Services

Table of Contents

Tables

Appendices

April 2, 2021 (Revised November 9, 2021)

U.S. Army Corps of Engineers
Regulatory Division
(CESWL-RD)
Little Rock District
700 W Capitol Avenue
Little Rock, AR 72203-3221

ECS Project No. 51:2106-A (Rev. 1)

Reference: Wetland Delineation – Arkansas Manufacturing Center – Miller County Road 64 and US Highway 67, Texarkana, Miller County, Arkansas 71854

1.0 INTRODUCTION

The purpose of this Wetland Delineation is to review a site associated with a manufacturing center northeast of Texarkana (Homan Township) in Miller County, Arkansas, hereafter referred to as the Project, for jurisdictional Waters of the U.S (WOUS) within the Project study area.

Wetlands are defined by the United States Army Corps of Engineers (USACE) and the United States Environmental Protection Agency (EPA) as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances, do support a prevalence of vegetation typically adapted for life in saturated soil conditions." In order for an area to be classified as wetland, hydrophytic vegetation, hydric soils, and wetland hydrology indicators must be present.

2.0 PROPERTY DESCRIPTION

The Client is proposing to develop five (5) parcels of land totaling approximately 1,410 acres that are currently used for cattle grazing.

A map of the Project is included as Appendix A, Figure 1.

3.0 METHODOLOGY

This Wetland Delineation is based on ECS' professional judgment and application of the technical criteria presented in the 1987 USACE Wetlands Delineation Manual (USACE 1987), and on the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region Version 2.0 dated November 2010 (USACE 2010).

ECS completed the following tasks to identify and delineate potentially jurisdictional WOUS boundaries onsite:

3.1 Literature Review

ECS wetland scientists reviewed the U.S. Geological Survey (USGS) Topographic Map Fulton, Arkansas and Homan, Arkansas Quadrangles 2019, U.S. Department of Agriculture Natural Resource Conservation Service (USDA-NRCS) Soil Survey of Miller County, the USDA NRCS 2015 National Hydric Soils List for Miller County, the Federal Emergency Management Agency (FEMA) Floodplain Mapping (Panels 05091C0050D and 05091C0075D), U.S. Fish & Wildlife Service (USFWS) National Wetlands Inventory (NWI) Wetlands Mapper, available aerial photographs to identify potentially jurisdictional Waters of the U.S. (i.e., streams, wetlands, natural ponds, lakes), and available watershed information.

3.2 Methodology for Field Investigation

Wetland boundaries were delineated using the routine onsite determination method described in the USACE Manual and Regional Supplement, in conjunction with the Atlantic and Gulf Coastal Plain 2016 Regional Wetland Plant List and the USDA Soil Survey.

ECS performed onsite wetland delineations as described above. First, site hydrology was observed and the plant community within the data plot was characterized. The dominant plant species within each community were then identified, and it was determined whether or not hydrophytic (wetland) plants dominated the plant community. The USFWS has defined five (5) wetland plant indicator categories including:

Obligate wetland (OBL) – has >99% probability of occurring in wetlands
Facultative wetland (FACW) – has 66% to 99% chance of occurring in wetlands
Facultative (FAC) – has 33% to 66% chance of occurring in wetlands
Facultative upland (FACU) – has 1 to 33% chance of occurring in wetlands
Upland (UPL) – has <1% chance of occurring in wetlands
No Indicator (NI) – no wetland indicator for the specified species, considered UPL
Plants identified as OBL, FACW, or FAC are considered wetland plants (or hydrophytes) by USACE.

In areas determined to have hydrophytic vegetation and potential wetland hydrology, an approximately 16-24 inch deep hand auger soil boring or shovel test pit was completed to determine if hydric soils were present. The soil boring was also inspected to determine if indicators of wetland hydrology (inundation, soil saturation, etc.) were present.

Once an area is determined to be a potential wetland, further testing was performed to locate the wetland/upland (non-wetland) boundary. A second soil data point was completed in the upland area to document non-wetland conditions. Potential wetland boundaries were marked with consecutively numbered surveyor's ribbon flags.

Data forms specified in the Regional Supplement were completed for each potential wetland and non-wetland soil data point location. The data forms recorded the vegetation, soils, and hydrology observations used in making the potential wetland determinations.

Pedestrian field reconnaissance was performed by ECS scientists on March 2-4, 2021. At the time of this field reconnaissance, Texas and Arkansas had recently received historically high winter precipitation leading to flooding throughout much of the eastern portion of the Project. As such, ECS conducted a second field reconnaissance on October 20, 2021 to reevaluate data points taken in previously flooded areas and map wetlands obscured or inaccessible in March.

Field investigations compared the reviewed background data to existing conditions and determined the current extent of Waters of the U.S. on the Project. A Trimble Geo 7X was utilized to record all field data. The Trimble Geo 7X is a handheld Global Navigation Satellite System (GNSS) capable of sub-meter accuracy data collection. Waypoints were taken of all data points. Wetland and stream field notes were recorded on the appropriate regional supplement wetland data sheets. Following the field investigation, the GNSS data was imported into Google Earth Pro. The collected waypoint data was used to interpret and develop polygon boundaries for all stream and wetland features.

3.3 Methodology for Delineating Streams

During the field investigation for potential wetlands, ECS identified streams onsite that would be considered jurisdictional by state and federal regulatory agencies. ECS used field indicators such as flow, substrate composition, presence/absence of defined bed and banks, origin of hydrologic source, presence/absence of vegetation in the stream channel, and composition and relative abundance of resident benthic macroinvertebrates to classify onsite streams into three stream types: ephemeral, intermittent, and perennial.

4.0 PROJECT SUMMARY AND SETTING

Hydrology, topography, vegetation, and soils within the Project boundaries are detailed below.

4.1 Topography

According to the USGS topographic maps Fulton, AR and Homan, AR Quadrangles, elevation of the Project ranges from approximately 266 feet above mean sea level (msl) on the southwestern corner of the Project, sloping to approximately 257 feet above msl on the southeastern corner. The Project is relatively flat and generally slopes to the southeast. A topographic map of the Project is included as Appendix I, Figure 2.

4.2 Hydrology

One drainage ditch is mapped crossing the western portion of the Project from northwest to southeast on the USGS Topographic map. Two wetlands are mapped on the NWI Wetlands Mapper (USFWS 2021) (Appendix II, Attachment 2). The mapped wetlands consist of a man-made pond on the northern boundary of the project, immediately south of the Interstate 30 overpass above US Highway 67, and a palustrine forested located in the wooded area on the eastern portion of the Project.

The Project is located within the Bois d'Arc Bayou watershed, identified as Hydrologic Unit Codes (HUC) 111402010202 (EPA 2021).

The majority of the Project is located inside of the 100-year floodplain (Zone A) (Appendix II, Attachment 3).

4.3 Vegetation

Vegetation observed during field reconnaissance included cedar elm (*Ulmus crassifolia*), pecan (*Carya illinoinensis*), pin oak (*Quercus palustris*), blackgum (*Nyssa sylvatica*), American hornbeam (*Carpinus caroliniana*), slippery elm (*Ulmus rubra*), American beech (*Fagus grandifolia*), hackberry (*Celtis occidentalis*), honeylocust (*Gleditsia triacanthos*), bermudagrass (*Cynodon dactylon*), Texas fescue (*Festuca versuta*), clammy groundcherry (*Physalis heterophylla*), early buttercup (*Ranunculus fascicularis*), burclover (*Medicago minima*), march purslane (*Ludwigia peploides*), pitchfork crowngrass (*Paspalum bifidum*), curly dock (*Rumex crispus*), southern crabgrass (*Digitaria ciliaris*), poverty rush (*Juncus anthelatus*), curlytop knotweed (*Polygonum lapathifolium*), mild water pepper (*Polygonum hydropiperoides*), smaller duckweed (*Lemna minor*), nut grass (*Cyperus esculentus*), southern cattail (*Typha domingensis*), bushy bluestem (*Andropogon glomeratus*), poison ivy (*Toxicodendron radicans*), and American wisteria (*Wisteria frutescens*)

4.4 Soils

Four (4) soil units (Table 1) are located within the Project boundaries (NRCS 2021). Hydric soils are defined as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part. The soil units found on the Project are listed as hydric or include hydric minor components in Miller County (NRCS 2021) (Appendix II, Attachment 1).

Table 1: Soil Units within the Project Boundaries

Map Unit Symbol	Map Unit Name	Hydric Soil	Data Point
5	Billyhaw clay, 0 to 1 percent slopes, rarely flooded	No (Minor components)	UDP-1, WDP-1, T7DP1\WDP-8, UDP-9, WDP-9
53	Bossier clay, 0 to 1 percent slopes	Yes	DP-1, DP-2, T1DP1, T2DP2/WDP-5, UDP-2, UDP-5, WDP-2 , T4DP2/WDP-6, T6DP1, UDP -6, T8DP1/WDP-11, T9DP1/WDP-12, UDP-10, UDP-11, UDP-12, WDP-10, WDP-A, UDP-A, WDP-B
55	Rilla silt loam, 0 to 1 percent slopes	No (Minor components)	T2DP1, UDP-3, UDP-4, WDP-3, WDP-4, T3DP1, T4DP1, T5DP1, UDP-7, UDP-8
86	Water	N/A	WDP-7

4.5 Observations

ECS conducted the initial field reconnaissance on March 2-4, 2021. At the time of this field reconnaissance, Texas and Arkansas had recently received historically high winter precipitation leading to flooding throughout much of the eastern portion of the Project. As such, ECS conducted a second field reconnaissance on October 20, 2021 to reevaluate data points taken in previously flooded areas and map wetlands obscured or inaccessible in March. The Project consisted of approximately 1,410 acres of pasture with the eastern portion of the Project being wooded after decades of disuse.

ECS personnel sampled thirty-five (35) data points on the Project. Data points were taken along nine (9) transects where plant communities varied and in areas identified on aerial imagery has being possible wetlands. Data points that indicated a wetland may be present at the data point were labeled WDP (wetland data point) and a second data point was taken in an upland area (UDP) to delineate the differing communities. Thus some data points are labeled with a transect identifier and indicated as a possible wetland, e.g. T2DP2/WDP-5. In total, ECS identified eight (8) wetlands on the Project. Two data points, labeled as DP, were taken to document current conditions in previously flooded areas.

Data points WDP-1 and UDP-1 were associated with Wetland 1; WDP-1 being located in the western portion of the wetland and UDP-1 being located west of WDP-1 in an area of similar elevation, but with a different plant community.

WDP-1 was characterized by very dark grayish brown clay with dark yellowish brown redox concentrations in the soil matrix which did meet the requirements for a hydric soil. Hydrologic indicators included approximately 5 inches of surface water, an algal mat, inundation visible on aerial imagery, and water-stained leaves. Vegetation at WDP-1 consisted of a cedar elm underlain by pitchfork crowngrass and bermudagrass. Vegetation at WDP-1 met the dominance and prevalence tests for hydrophytic vegetation.

UDP-1 was characterized by brown clay with reddish yellow redox concentrations in the soil matrix which did not meet the requirements for a hydric soil. Hydrologic indicators were not observed within the vicinity of UDP-1. Vegetation at UDP-1 consisted of an herbaceous stratum dominated by burclover and bermudagrass. Vegetation at UDP-1 did not meet tests for hydrophytic vegetation.

Wetland 1 was a palustrine emergent wetland. A single cedar elm shaded most of the wetland. The area around the tree was under approximately 6-8 inches of water and was not vegetated. The margins of the wetland were vegetated with pitchfork crowngrass, early buttercup, and curly dock. Due to high precipitation, the area of inundation exceeded the bounds of the mapped wetland with the ratio of crowngrass to bermudagrass used to delineate the normal bounds. Wetland 1 was located on the western portion of the Project. Connectivity with other features was not observed. The nearest feature was an off-site roadside ditch located approximately 200 feet west. Wetland 1 appeared to be fed by overland flow and slowly dries up due to evaporation between precipitation events. ECS does not consider Wetland 1 to be a potential Water of the US due its lack of connectivity with other features.

Data point T1DP1 was located in a pasture on the western portion of the Project. T1DP1 was characterized by reddish brown sandy clay which did not meet the requirements for a hydric soil. Hydrologic indicators were not observed in the vicinity of T1DP1. Vegetation at T1DP1 consisted of an herbaceous stratum dominated by bermudagrass and Texas fescue. Vegetation around T1DP1 did not meet tests for hydrophytic vegetation.

Data points WDP-2 and UDP-2 were associated with Wetland 2; WDP-2 being located in the northern portion of the wetland near the northern Project boundary and UDP-2 being located west of WDP-2 in an area of higher elevation and a different plant community.

WDP-2 was characterized by brown clay with brownish yellow redox concentrations in the soil matrix which did meet the requirements for a hydric soil. Hydrologic indicators included approximately 3 inches of surface water, drift deposits, and an algal mat. Vegetation at WDP-2 consisted of an overhanging cedar elm. The herbaceous stratum consisted of sparse early buttercup, bermudagrass, and marsh purslane. Vegetation at WDP-2 met the dominance and prevalence tests for hydrophytic vegetation.

UDP-2 was characterized by dark yellowish brown sandy clay soils which did not meet the requirements for a hydric soil. Hydrologic indicators were not observed within the vicinity of UDP-2. Vegetation at UDP-2 consisted of a cedar elm with an herbaceous stratum dominated by bermudagrass. Vegetation at UDP-2 did not meet tests for hydrophytic vegetation.

Wetland 2 was a palustrine emergent wetland in and along a man-made drainage ditch. Marsh purslane and curly dock lined the ditch, which was characterized by a steep drop of two to three feet off of the top of the banks. The wetland appeared to be fed by some overland flow (where banks had been eroded by cattle) and off-site drainage from the railroad tracks along the northern boundary of the Project. The ditch was observed to continue off of the Project to the southeast and joins a network of similar canals and ditches that drain to the Red River. Wetland 2 appears to be a potential Water of the US due to its observed connectivity with the Red River.

Data points WDP-3 and UDP-3 were associated with a suspected wetland; WDP-3 being located in the central portion of the suspected wetland and UDP-3 being located south of WDP-3 in an area of higher elevation and a different plant community. During post-reconnaissance review, WDP-3 was found to not be located in a wetland.

WDP-3 was characterized by brown clayey soils with strong brown redox concentration in the soil matrix which did meet the requirements for a hydric soil. Hydrologic indicators included approximately 2 inches of surface water, an algal mat, inundation visible on aerial imagery, and aquatic fauna. Vegetation at WDP-3 consisted of an herbaceous stratum of bermudagrass and early buttercup. Vegetation at WDP-3 did not meet tests for hydrophytic vegetation.

UDP-3 was characterized by a thin surficial layer of very dark gray clay under lain by brown clay soils which did not meet the requirements for a hydric soil. Hydrologic indicators were not observed within the vicinity of UDP-3. Vegetation at UDP-3 consisted of pecan underlain by an herbaceous stratum dominated by bermudagrass and clammy groundcherry. Vegetation at UDP-3 did not meet tests for hydrophytic vegetation.

Data points WDP-4 and UDP-4 were associated with a suspected wetland; WDP-4 being located in the northwestern portion of the suspected wetland and UDP-4 being located northeast of WDP-4 in an area of higher elevation and a different plant community. During post-reconnaissance review, WDP-4 was found to not be located in a wetland.

WDP-4 was characterized by a surficial layer of brown silty clay soils underlain by reddish brown silty clay which did not meet the requirements for a hydric soil. Hydrologic indicators included approximately 3 inches of surface water, an algal mat, and inundation visible on aerial imagery. Vegetation at WDP-4 consisted of an herbaceous stratum dominated by early buttercup. Vegetation at WDP-4 met the dominance and prevalence tests for hydrophytic vegetation.

UDP-4 was characterized by brown silty clay soils which did not meet the requirements for a hydric soil. Hydrologic indicators were not observed within the vicinity of UDP-4. Vegetation at UDP-4 consisted of pecan underlain by an herbaceous stratum dominated by bermudagrass and burclover. Vegetation at UDP-4 did not meet tests for hydrophytic vegetation.

Data point T2DP1 was located in a pasture near the northern boundary of the Project. T2DP1 was characterized by brown sandy clay soils which did not meet the requirements for a hydric soil. Hydrologic indicators were not observed in the vicinity of T2DP1. Vegetation at T2DP1 consisted of an herbaceous stratum dominated by bermudagrass and Texas fescue. Vegetation around T2DP1 did not meet tests for hydrophytic vegetation.

Data points T2DP2/WDP-5, UDP-5, and DP-1 were associated with Wetland 5, a flooded area mapped in March 2021; T2DP2/WDP-5 being located in the western portion of the flooded area and UDP-5 being located northwest of T2DP2/WDP-5 in an area of similar elevation and a different plant community. Data point DP-1 was located in the eastern portion of the formerly flooded area. ECS revisited T2DP2/WDP-5 and took data point DP-1 in October 2021 under normal circumstances. Based on those observations, Wetland 5 is no longer considered a wetland.

T2DP2/WDP-5 was characterized by very dark gray silty clay soils with reddish yellow redox concentrations in the soil matrix which did meet the requirements for a hydric soil. Hydrologic indicators included approximately 2 inches of surface water, algal mats, and aquatic fauna. Vegetation at T2DP2/WDP-5 consisted of an herbaceous stratum dominated by marsh purslane and pitchfork crowngrass. Vegetation at T2DP2/WDP-5 met the rapid, dominance, and prevalence tests for hydrophytic vegetation. ECS revisited T2DP2/WDP-5 in October 2021. At that time, hydrologic indicators were not observed. Vegetation consisted of an herbaceous stratum dominated by bermudagrass and fescue. Vegetation at T2DP2/WDP-5 did not meet tests for hydrophytic vegetation. Soils were similar to those observed in March 2021. Based on the observations under normal circumstances, ECS does not consider the data point to indicate a wetland.

DP-1 was characterized by gray clayey soils with yellowish-red redox concentrations in the soil matrix which did meet the requirements for a hydric soil. Hydrologic indicators were not observed at DP-1. Vegetation at DP-1 consisted of an herbaceous stratum dominated by bermudagrass with some wild parsley, Kentucky bluegrass, and dagger-leaf spikerush. Vegetation at DP-1 did not meet tests for hydrophytic vegetation.

UDP-5 was characterized by brown sandy clay soils which did not meet the requirements for a hydric soil. Hydrologic indicators were not observed within the vicinity of UDP-5. Vegetation at UDP-5 consisted of an herbaceous stratum dominated by bermudagrass and burclover. Vegetation at UDP-5 did not meet tests for hydrophytic vegetation.

Previously we noted that Wetland 5 was a palustrine emergent wetland located on the southern portion of the Project. However, based on observations taken in October 2021, ECS no longer considers the mapped area of Wetland 5 to be a wetland.

Data point T3DP1 was located in a pasture near the northern Project boundary. T3DP1 was characterized by brown sandy clay loam soils which did not meet the requirements for a hydric soil. Hydrologic indicators were not observed in the vicinity of T3DP1. Vegetation at T3DP1 consisted of an herbaceous stratum dominated by bermudagrass. Vegetation around T3DP1 did not meet tests for hydrophytic vegetation.

Data point T4DP1 was located in a pasture near the northern Project boundary. T4DP1 was characterized by brown sandy clay loam soils which did not meet the requirements for a hydric soil. Hydrologic indicators were not observed in the vicinity of T4DP1. Vegetation at T4DP1 consisted of an herbaceous stratum dominated by bermudagrass. Vegetation around T4DP1 did not meet tests for hydrophytic vegetation.

Data points T4DP2/WDP-6, UDP-6, and DP-2 were associated with Wetland 6, a flooded area mapped in March 2021; T2DP2/WDP-6 being located in the northwestern portion of the flooded area and UDP-6 being located southeast of T2DP2/WDP-6 in an area of higher elevation and a different plant community. Data point DP-2 was located in the southeastern portion of the formerly flooded area. ECS revisited T4DP2/WDP-6 and took data point DP-2 in October 2021 under normal circumstances. Based on those observations, Wetland 6 is no longer considered a wetland.

T4DP2/WDP-6 was characterized by brown silty clay soils with reddish yellow redox concentrations in the soil matrix which did meet the requirements for a hydric soil. Hydrologic indicators included approximately 3 inches of surface water, inundation visible on aerial imagery, and aquatic fauna. Vegetation at T4DP2/WDP-6 consisted of an herbaceous stratum dominated by marsh purslane. Vegetation at T4DP2/WDP-6 met the rapid, dominance, and prevalence tests for hydrophytic vegetation. ECS revisited T4DP2/WDP-6 in October 2021. At that time, hydrologic indicators included inundation on aerial photography. Vegetation consisted of an herbaceous stratum dominated by bermudagrass and balloonvine. Vegetation at T4DP2/WDP-6 did not meet tests for hydrophytic vegetation. Soils were similar to those observed in March 2021. Based on the observations under normal circumstances, ECS does not consider the data point to indicate a wetland.

DP-2 was characterized by black clayey soils with yellowish-red redox concentrations in the soil matrix which did meet the requirements for a hydric soil. Hydrologic indicators were not observed at DP-2. Vegetation at DP-2 consisted of an herbaceous stratum dominated by bermudagrass and wild parsley. Vegetation at DP-2 did not meet tests for hydrophytic vegetation.

UDP-6 was characterized by dark brown silty clay loam soils with reddish yellow redox concentration in the soil matrix and pore linings which did meet the requirements for a hydric soil. Hydrologic indicators were not observed within the vicinity of UDP-6. Vegetation at UDP-6 consisted of an herbaceous stratum dominated by bermudagrass. Vegetation at UDP-6 did not meet tests for hydrophytic vegetation.

Previously we noted that Wetland 6 was a palustrine emergent wetland located on the southeastern portion of the Project. However, based on observations taken in October 2021, ECS no longer considers the mapped area of Wetland 6 to be a wetland.

Data point T5DP1 was located in a pasture near the northern Project boundary. T5DP1 was characterized by brown sandy clay soils which did not meet the requirements for a hydric soil. Hydrologic indicators observed in the vicinity of DP-5 included approximately 2 inches of surface water. Vegetation at T5DP1 was consisted of an herbaceous stratum dominated by bermudagrass and Texas fescue. Vegetation around T5DP1 did not meet tests for hydrophytic vegetation.

Data points WDP-7 and UDP-7 were associated with Wetland 7; WDP-7 being located in the southern portion of the wetland and UDP-7 being located south of WDP-7 in an area of higher elevation and a different plant community.

WDP-7 was characterized by gray silty clay soils with dark yellowish brown redox concentrations in the soil matrix which did meet the requirements for a hydric soil. Hydrologic indicators included approximately 6 inches of surface water, an algal mat, inundation visible on aerial imagery, water-stained leaves, and aquatic fauna. Vegetation at WDP-7 consisted of overhanging cedar elm with an herbaceous stratum dominated by marsh purslane and curlytop knotweed. Vegetation at WDP-7 met the dominance and prevalence tests for hydrophytic vegetation.

UDP-7 was characterized by brown sandy clay soils which did not meet the requirements for a hydric soil. Hydrologic indicators were not observed within the vicinity of UDP-7. Vegetation at UDP-7 consisted of an herbaceous stratum dominated by bermudagrass and Texas fescue. Vegetation at UDP-7 did not meet tests for hydrophytic vegetation.

Wetland 7 was a triangular, excavated pond located on the northern boundary of the Project. The northwestern and northeastern boundaries of the wetland consisted of US Highway 67 and Interstate 30, respectively. Wetland 7 appeared to be fed by overland flow from the north and ditches along the adjoining roads. During periods of high precipitation, Wetland 7 may overtop along its southern edge and overland flow from the wetland would fan out into the pasture. The nearest feature to the wetland is a drainage ditch over 1,600 feet southeast and off of the Project. ECS does not consider Wetland 7 to be a potential Water of the US due its lack of connectivity with other features.

Data point T6DP1 was located in a pasture on the northeastern portion of the Project. T6DP1 was characterized by brown sandy clay loam soils which did not meet the requirements for a hydric soil. Hydrologic indicators were not observed in the vicinity of T6DP1. Vegetation at T6DP1 consisted of an herbaceous stratum dominated by bermudagrass and Texas fescue. Vegetation around T6DP1 did not meet tests for hydrophytic vegetation.

Data points T7DP1/WDP-8 and UDP-8 were associated with a suspected wetland; T7DP1/WDP-8 being located in the central portion of the suspected wetland and UDP-8 being located west of T7DP1/WDP-8 in an area of similar elevation and a different plant community. During post-reconnaissance review, T7DP1/WDP-8 was found to not be located in a wetland.

T7DP1/WDP-8 was characterized by brown clay loam soils which did not meet the requirements for a hydric soil. Hydrologic indicators included approximately 2 inches of surface water and an algal mat. Vegetation at T7DP1/WDP-8 consisted of an herbaceous stratum dominated by bermudagrass and Texas fescue. Vegetation at T7DP1/WDP-8 did not meet tests for hydrophytic vegetation.

UDP-8 was characterized by a brown clay loam with reddish yellow redox concentration in the soil matrix which did not meet the requirements for a hydric soil. Hydrologic indicators were not observed within the vicinity of UDP-8. Vegetation at UDP-8 consisted of an herbaceous stratum dominated by bermudagrass and Texas fescue. Vegetation at UDP-8 did not meet tests for hydrophytic vegetation.

Data points WDP-9 and UDP-9 were associated with Wetland 9; WDP-9 being located in the southern portion of the wetland and UDP-9 being located west of WDP-9 in an area of higher elevation and with a different plant community.

WDP-9 was characterized by gray silty clay with brownish yellow redox concentrations in the soil matrix which did meet the requirements for a hydric soil. Hydrologic indicators included approximately 5 inches of surface water, an algal mat, inundation visible on aerial imagery, and aquatic fauna. Vegetation at WDP-9 consisted of a pin oak underlain by mild water pepper, marsh purslane, smaller duckweed, and poverty rush. Vegetation at WDP-9 met the rapid, dominance, and prevalence tests for hydrophytic vegetation.

UDP-9 was characterized by a brown clay loam which did not meet the requirements for a hydric soil. Hydrologic indicators were not observed within the vicinity of UDP-9. Vegetation at UDP-1 consisted of an herbaceous stratum dominated by bermudagrass and Texas fescue. Vegetation at UDP-9 did not meet tests for hydrophytic vegetation.

Wetland 9 was a palustrine unconsolidated bottom, diked wetland. The wetland was ringed by oaks underlain with obligate wetland plants such as water pepper and marsh purslane. The area around the tree was under approximately 6-8 inches of water and was not vegetated. Wetland 9 was located on the northeastern portion of the Project. Wetland 9 appeared to be fed by overland flow from the north and northeast. During periods of high precipitation, Wetland 9 may overtop along its southeastern edge and overland flow from the wetland would fan out into the pasture. The nearest feature to the wetland is a drainage ditch over 1,500 feet south and off of the Project. ECS does not consider Wetland 9 to be a potential Water of the US due its lack of connectivity with other features.

Data points WDP-10 and UDP-10 were associated with Wetland 10; WDP-10 being located in the eastern portion of the wetland and UDP-10 being located east of WDP-10 in an area of similar elevation, but with a different plant community.

WDP-10 was characterized by dark grayish brown silty clay with strong brown redox concentrations in the soil matrix which did meet the requirements for a hydric soil. Hydrologic indicators included approximately 4 inches of surface water, inundation visible on aerial imagery, and a sparsely vegetated concave surface. Vegetation at WDP-10 consisted of hackberry and honeylocust underlain by early buttercup. Vegetation at WDP-10 met the dominance test for hydrophytic vegetation.

UDP-10 was characterized by a surficial layer of very dark gray sandy clay with reddish yellow redox concentrations in the pore linings underlain by brown sandy clay with reddish yellow redox concentrations in the soil matrix and pore linings which did meet the requirements for a hydric soil. Hydrologic indicators were not observed within the vicinity of UDP-10. Vegetation at UDP-10 consisted of an herbaceous stratum dominated by bermudagrass. Vegetation at UDP-10 did not meet tests for hydrophytic vegetation.

Wetland 10 was a palustrine emergent wetland. The wetland was ringed by hackberry, honeylocust, and pin oak. The margins of the wetland were vegetated with early buttercup and curly dock. Due to high precipitation, the area of inundation exceeded the bounds of the mapped wetland with the ratio of dock and buttercup to bermudagrass and fescue used to delineate the normal bounds. Wetland 10 was located on the eastern portion of the Project. Connectivity with other features was not observed. The nearest feature was an off-site drainage ditch located over 400 feet east. Wetland 10 appeared to be fed by overland flow from the north and west. During periods of high precipitation, Wetland 10 may overtop along its eastern edge and overland flow from the wetland would fan out into the pasture. ECS does not consider Wetland 10 to be a potential Water of the US due its lack of connectivity with other features.

Data points T8DP1/WDP-11, T9DP1/WDP-12, UDP-11, and UDP-12 were associated with Wetland 11, a flooded area mapped in March 2021; T8DP1/WDP-11 being located in the western central portion of the flooded area, T9DP1/WDP-12 being located in the eastern central portion, UDP-11 being located on the unpaved access road north of T8DP1/WDP-11, and UDP-12 being located on the unpaved access road southeast of T9DP1/WDP-12. ECS revisited T8DP1/WDP-11 and T9DP1/WDP-12 in October 2021 under normal circumstances. Based on those observations, Wetland 6 is no longer considered a wetland.

T8DP1/WDP-11 was characterized by a surficial layer of very dark grayish brown clay soils with reddish yellow redox concentrations in the soil matrix underlain by brown clay loam with brownish yellow redox concentrations in the soil matrix which did meet the requirements for a hydric soil. Hydrologic indicators included approximately 4 inches of surface water, aquatic fauna, and moss trim lines. Vegetation at T8DP1/WDP-11 consisted of blackgum and musclewood trees and saplings underlain by an herbaceous stratum dominated by poverty rush and nutgrass. Vegetation at T8DP1/WDP-11 met the dominance and prevalence tests for hydrophytic vegetation. ECS revisited T8DP1/WDP-11 in October 2021. At that time, hydrologic indicators included moss-trim lines. Vegetation consisted of blackgum and musclewood trees and saplings underlain by an herbaceous stratum dominated by poverty rush, nutgrass, and bermudagrass. Vegetation at T8DP1/WDP-11 met the dominance and prevalence tests for hydrophytic vegetation. Soils were similar to those observed in March 2021. Based on the observations under normal circumstances, ECS does not consider the data point to indicate a wetland.

T9DP1/WDP-12 was characterized by a surficial layer of very dark gray clay soils underlain by brown clay soils with brownish yellow redox concentrations in the soil matrix which did meet the requirements for a hydric soil. Hydrologic indicators included approximately 2 inches of surface water, aquatic fauna, and moss trim lines. Vegetation at T9DP1/WDP-12 consisted of slippery elm, American beech, and musclewood trees and saplings underlain an herbaceous stratum dominated by nutgrass, poverty rush, and early buttercup. Vegetation at T9DP1/WDP-12 met the dominance and prevalence tests for hydrophytic vegetation. ECS revisited T9DP1/WDP-12 in October 2021. At that time, hydrologic indicators included moss-trim lines. Vegetation consisted of slippery elm, American beech, and musclewood trees and saplings underlain an herbaceous stratum dominated by nutgrass and poverty rush. Vegetation at T9DP1/WDP-12 met the dominance and prevalence tests for hydrophytic vegetation. Soils were similar to those observed in March 2021. Based on the observations under normal circumstances, ECS does not consider the data point to indicate a wetland.

UDP-11 was characterized by brown clay soils with brownish yellow redox concentrations in the soil matrix which did not meet the requirements for a hydric soil. Hydrologic indicators were not observed within the vicinity of UDP-11. Vegetation at UDP-11 consisted of musclewood trees and sapling underlain by an herbaceous stratum composed of burclover and bermudagrass. Vegetation at UDP-11 did not meet tests for hydrophytic vegetation.

UDP-12 was characterized by brown sandy clay soils with brownish yellow redox concentrations in the soil matrix which did not meet the requirements for a hydric soil. Hydrologic indicators were not observed within the vicinity of UDP-12. Vegetation at UDP-12 consisted of an herbaceous stratum dominated by bermudagrass and bushy bluestem. Vegetation at UDP-12 did not meet tests for hydrophytic vegetation.

Previously we noted that Wetland 11 was a palustrine forested wetland located on the eastern, wooded portion of the Project. However, based on observations taken in October 2021, ECS no longer considers the mapped area of Wetland 6 to be a wetland.

Data points WDP-A and UDP-A were associated with Wetland A; WDP-A being located in the central portion of the wetland and UDP-A being located southeast of WDP-9 in an area of similar elevation and with a different plant community.

WDP-A was characterized by black silty clay with strong brown redox concentrations in the soil matrix which did meet the requirements for a hydric soil. Hydrologic indicators included soil saturation at approximately 3 inches, moss trim lines, and crayfish burrows. Vegetation at WDP-A consisted of a stand of water oak underlain by bare soil and dead leaves. Vegetation at WDP-A met the dominance and prevalence tests for hydrophytic vegetation.

UDP-A was characterized by black clay soil with strong brown redox concentrations in the soil matrix which did meet the requirements for a hydric soil. Hydrologic indicators were not observed within the vicinity of UDP-A. Vegetation at UDP-A consisted of musclewood and beech underlain by an herbaceous stratum dominated by bermudagrass and balloonvine. Vegetation at UDP-A did not meet tests for hydrophytic vegetation.

Wetland A was a palustrine forested wetland. The wetland was located in a stand of water oaks with bare earth beneath the trees and was ringed by nutsedge, marsh elder, and balloonvine. Wetland A was located on the northeastern portion of the Project. Wetland A appeared to be fed by overland flow from the north and northeast. During periods of high precipitation, Wetland 9 may overtop along its southern and eastern edges and overland flow from the wetland would fan out into the surrounding forest. The nearest feature to the wetland is a drainage ditch over 1,100 feet south and off of the Project. ECS does not consider Wetland A to be a potential Water of the US due its lack of connectivity with other features.

Data point WDP-B was associated with Wetland B; WDP-B being located in the northern portion of the wetland. UDP-12 served as the associated upland data point, being located west of WDP-B in an area of higher elevation and with a different plant community.

WDP-B was characterized by black silty clay with reddish-yellow redox concentrations in the soil matrix which did meet the requirements for a hydric soil. Hydrologic indicators included saturation at approximately 4 inches, a sparse vegetated concave surface, and a FAC-neutral test. Vegetation at WDP-B consisted of an herbaceous stratum dominated by Torrey's rush and prostrate knotweed. Vegetation at WDP-B met the dominance and prevalence tests for hydrophytic vegetation.

Wetland B was a palustrine emergent wetland. The wetland was ringed by rushes and knotweed transitioning to bermudagrass and balloonvine. Wetland B was located on the northeastern portion of the Project. Wetland B appeared to be fed by overland flow from the north and northeast. During periods of high precipitation, Wetland B may overtop along its southern edge and overland flow from the wetland would fan out into the surrounding pasture. The nearest feature to the wetland is a drainage ditch over 1,000 feet south and off of the Project. ECS does not consider Wetland B to be a potential Water of the US due its lack of connectivity with other features.

No streams were observed on the Project. Wetland 2 may flow southeast during periods of high precipitation, however the lack of observed flow and observed wetland characteristics led to it being considered a wetland.

4.6 Jurisdictional Discussion

ECS considers Wetland 2 to be a potential Water of the US due to its observed connectivity to off-site features and eventually the Red River. ECS does not consider Wetlands 1, 7, 9, 10, A, and B to be jurisdictional features due to the lack of observed connectivity with other potentially jurisdictional features.

5.0 RESULTS

Based on our field investigation, potential Waters of the U.S. are located on the Project and may be subject to permitting under Section 404 of the Clean Water Act.

Table 2 summarizes the potential Waters of the U.S. Table 3 summarizes the potential wetland data points. A map of the results of the investigation is included in Appendix A, Figure 3.

Please note the final authority in determining jurisdiction of a water feature, including significant nexus decisions, rests with USACE.

Table 2: Onsite Features

Feature	Classification	Width at Ordinary High Water Mark	Depth at Ordinary High Water Mark	Length	Surface Area	Potentially Jurisdictional
Wetland 1	PEM	N/A	N/A	N/A	0.14 acres	No
Wetland 2	PEM	N/A	N/A	N/A	1.29 acres	Yes
Wetland 7	PUBHx	N/A	N/A	N/A	4.31 acre.	No
Wetland 9	PUB	N/A	N/A	N/A	0.21 acres	No
Wetland A	PFO	N/A	N/A	N/A	1.18 acres	No
Wetland B	PEM	N/A	N/A	N/A	0.11 acres	No

Table 3: Data Points Summary

Data Point	Lat/Long	Hydrology	Hydrophytic Vegetation	Hydric Soils	Classification
WDP-1	33.533037, -93.905303	Yes	Yes	Yes	PEM
UDP-1	33.532974, -93.905628	No	No	No	Non-wetland
T1DP1	33.531082, -93.898774	No	No	No	Non-wetland
WDP-2	33.535940, -93.900115	Yes	Yes	Yes	PEM
UDP-2	33.535901, -93.900171	No	No	No	Non-wetland
WDP-3	33.535549, -93.896232	Yes	No	Yes	Non-wetland
UDP-3	33.535479, -93.896253	No	No	No	Non-wetland
WDP-4	33.535336, -93.896061	Yes	Yes	No	Non-wetland
UDP-4	33.535406, -93.896011	No	No	No	Non-wetland
T2DP1	33.538028, -93.894883	No	No	No	Non-wetland
T2DP2/WDP-5	33.532119, -93.891873	Yes	Yes	Yes	PEM
T2DP2/WDP-5 (10/20)	33.532119, -93.891873	No	No	Yes	Non-wetland
DP-1	33.532434, -93.885757	No	No	Yes	Non-wetland
UDP-5	33.532302, -93.892160	No	No	No	Non-wetland
T3DP1	33.540763, -93.889044	No	No	No	Non-wetland
T4DP1	33.543258, -93.883194	No	No	No	Non-wetland
T4DP2/WDP-6	33.535890, -93.878564	Yes	Yes	Yes	PEM
T4DP2/WDP-6 (10/20)	33.535890, -93.878564	No	No	Yes	Non-wetland

Data Point	Lat/Long	Hydrology	Hydrophytic Vegetation	Hydric Soils	Classification
DP-2	33.530349, -93.871750	No	No	Yes	Non-wetland
UDP-6	33.535872, -93.878508	No	No	Yes	Non-wetland
T5DP1	33.545535, -93.877190	Yes	No	No	Non-wetland
WDP-7	33.548507, -93.874024	Yes	Yes	Yes	PUBHx
UDP-7	33.547968, -93.873814	No	No	No	Non-wetland
T6DP1	33.547146, -93.870563	No	No	No	Non-wetland
T7DP1/WDP-8	33.550055, -93.864193	Yes	No	No	Non-wetland
UDP-8	33.550230, -93.864959	No	No	No	Non-wetland
WDP-9	33.548709, -93.863120	Yes	Yes	Yes	PUB
UDP-9	33.548710, -93.863373	No	No	No	Non-wetland
WDP-10	33.542276, -93.872650	Yes	Yes	Yes	PEM
UDP-10	33.542242, -93.872495	No	No	Yes	Non-wetland
T8DP1/WDP-11	33.547225, -93.856825	Yes	Yes	Yes	PFO
T28DP1/WDP-11 (10/20)	33.547225, -93.856825	No	Yes	Yes	Non-wetland
UDP-11	33.547446, -93.856722	No	No	No	Non-wetland
T9DP1/WDP-12	33.547643, -93.851020	Yes	Yes	Yes	PFO
T9DP1/WDP-12 (10/20)	33.547643, -93.851020	No	Yes	Yes	Non-wetland
UDP-12	33.547541, -93.850803	No	No	No	Non-wetland
WDP-A	33.547608, -93.853648	Yes	Yes	Yes	PFO
UDP-A	33.547382, -93.852828	No	No	Yes	Non-wetland
WDP-B	33.547358, -93.850057	Yes	Yes	Yes	PEM

6.0 SUMMARY

Based on our Wetland Delineation, potentially jurisdictional WOUS do appear to be present on the Project site. Final authority in determining jurisdiction of a water feature, including significant nexus decisions, rests with USACE.

The delineated WOUS boundaries are subject to change during the jurisdictional determination meeting with the USACE. ECS cannot guarantee that field conditions and/or WOUS boundaries will not change over time.

7.0 REFERENCES

Federal Emergency Management Agency (FEMA) [Map]. (2009). Flood Insurance Rate Map (No. 05091C0050D).

Federal Emergency Management Agency (FEMA) [Map]. (2009). Flood Insurance Rate Map (No. 05091C0075D).

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U.S. Geological Survey (USGS) [Map]. (2019). Fulton, AR Quadrangle.

Appendix I: Figures

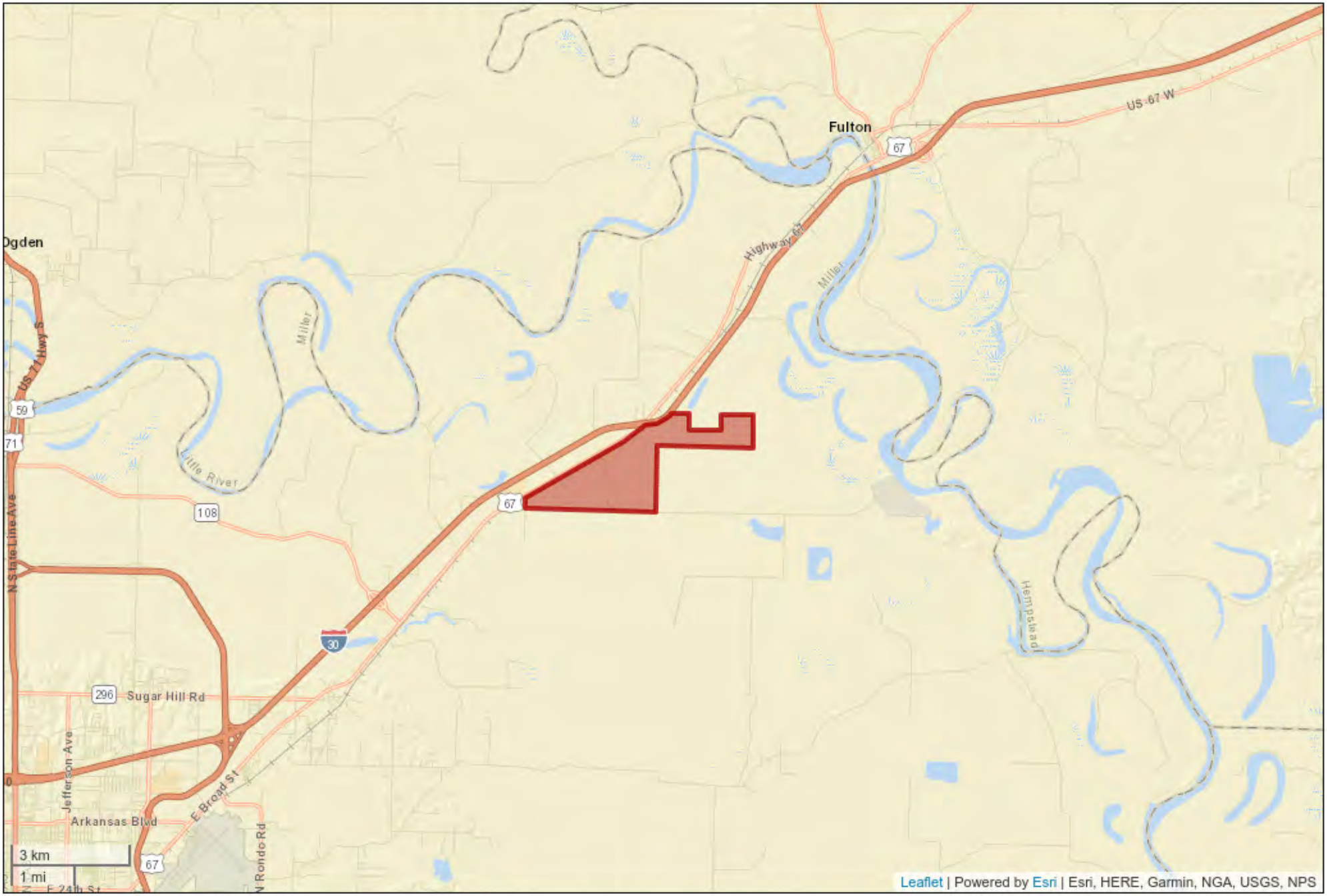


Figure 1 - Project Location Map

REDI Arkansas Manufacturing Center
US Highway 67 and Miller County Road 64
Homan Township, Texarkana, Miller County, Arkansas 71854
ECS Project 51:2106-A (Rev. 1)

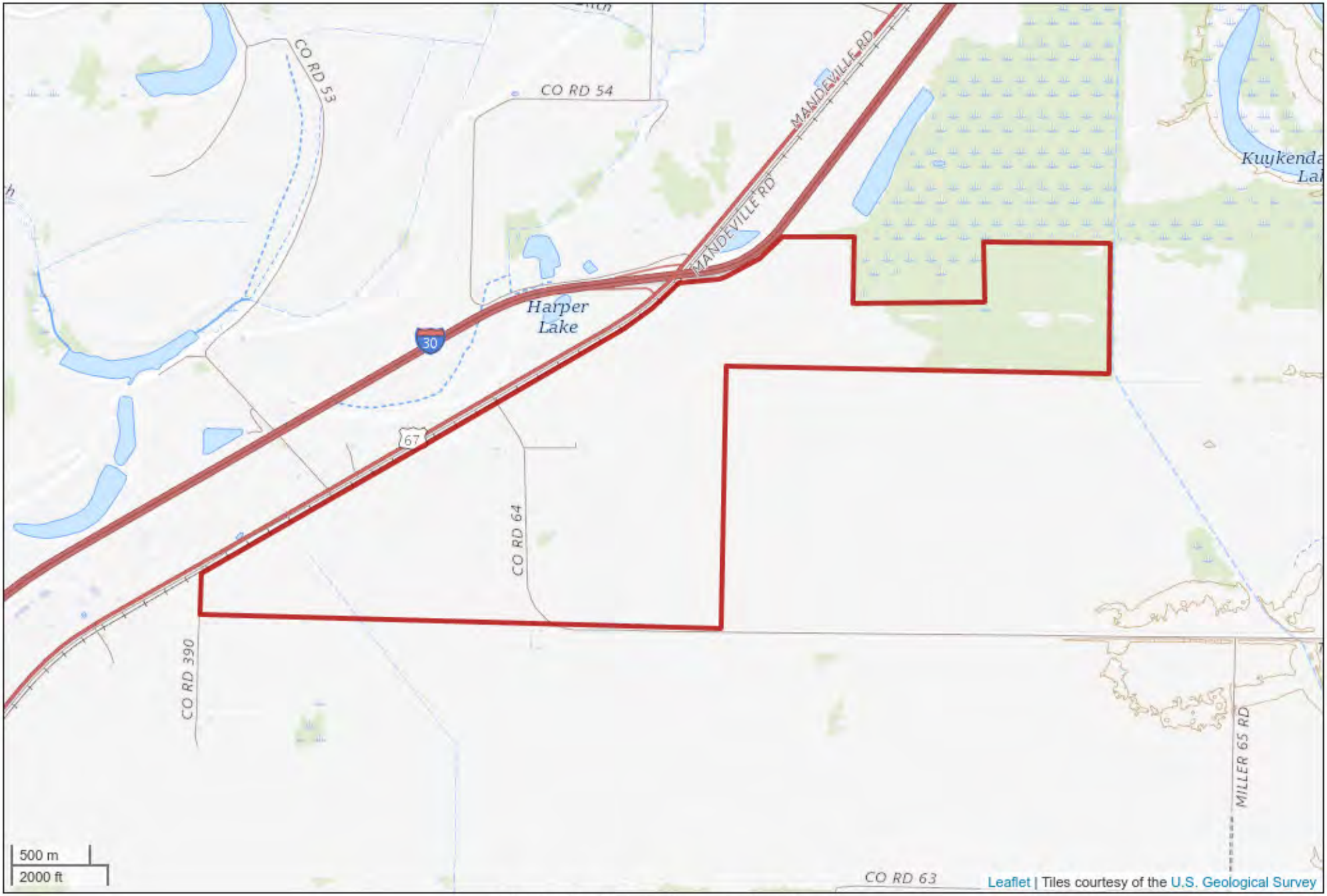


Figure 2 - USGS Topographic Map

Fulton, Arkansas and Homan, Arkansas Quadrangles 2019
REDI Arkansas Manufacturing Center
US Highway 67 and Miller County Road 64
Homan Township, Texarkana, Miller County, Arkansas 71854
ECS Project 51:2106-A (Rev. 1)

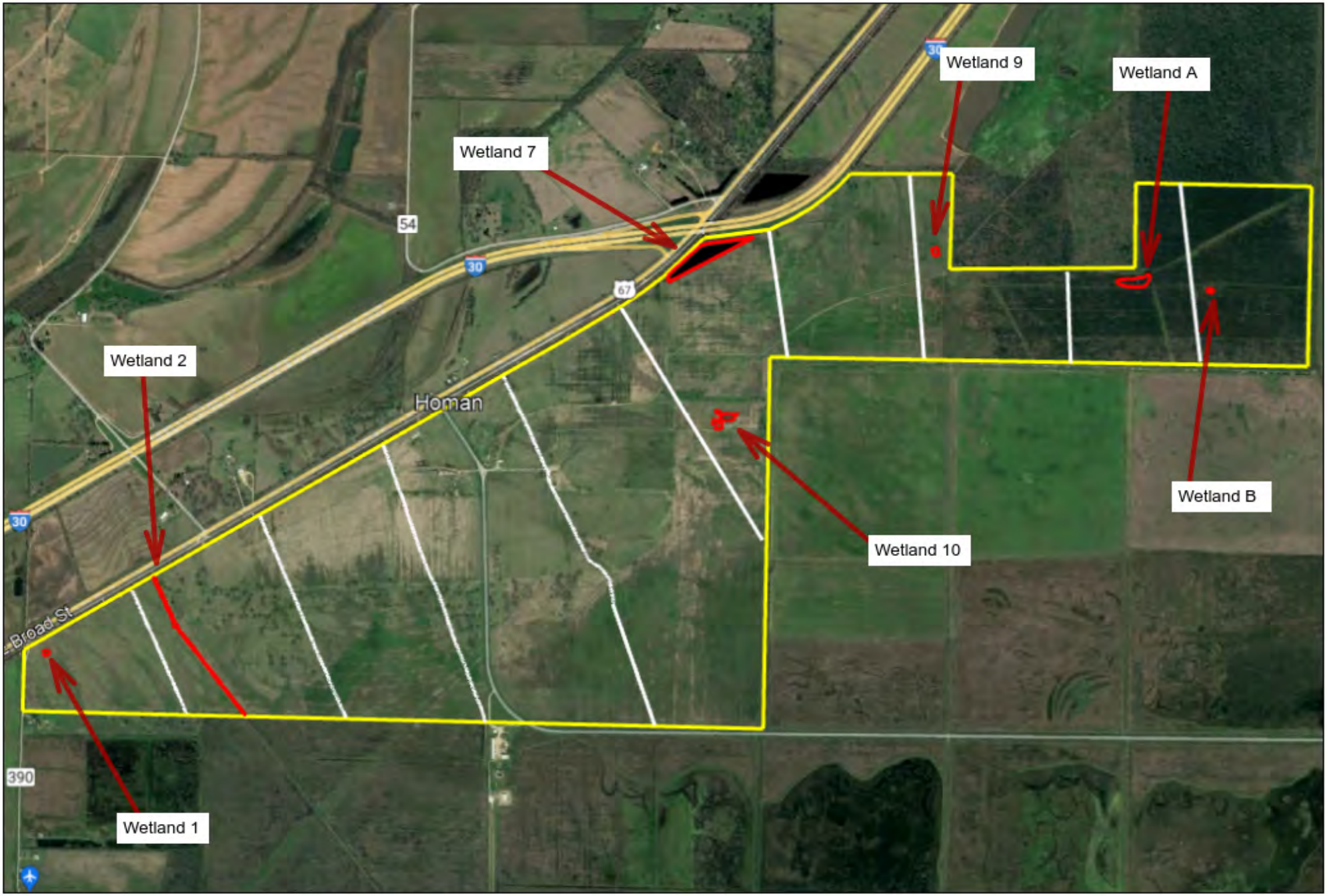


Figure 3 - Results Summary

REDI Arkansas Manufacturing Center

US Highway 67 and Miller County Road 64

Homan Township, Texarkana, Miller County, Arkansas 71854

ECS Project 51:2106-A (Rev. 1)

Figure 4 - Western Project Detail

REDI Arkansas Manufacturing Center
US Highway 67 and Miller County Road 64
Homan Township, Texarkana, Miller County, Arkansas 71854
ECS Project 51:2106-A (Rev.1)

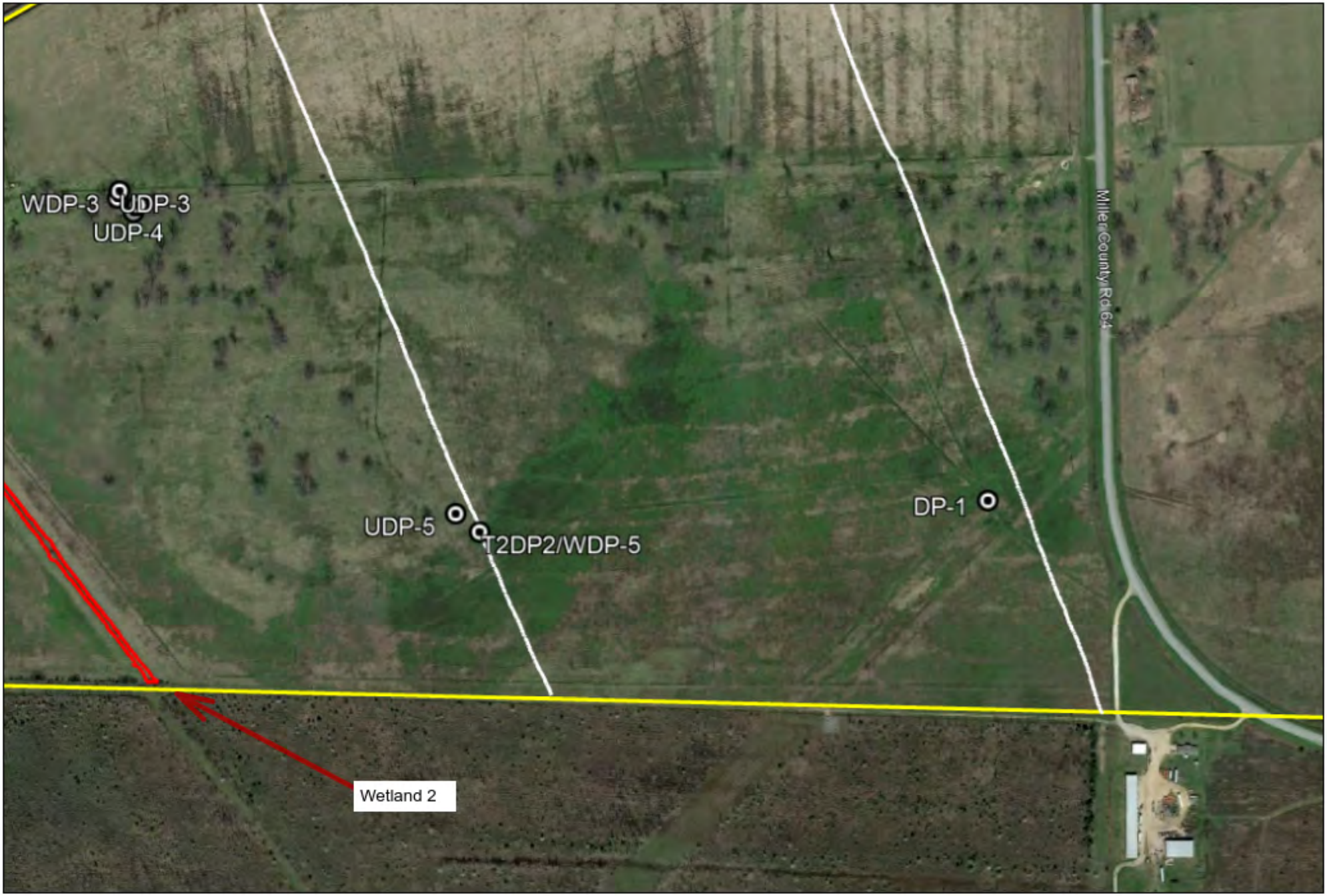


Figure 5 - South Central Detail

REDI Arkansas Manufacturing Center
US Highway 67 and Miller County Road 64
Homan Township, Texarkana, Miller County, Arkansas 71854
ECS Project 51:2106-A (Rev. 1)

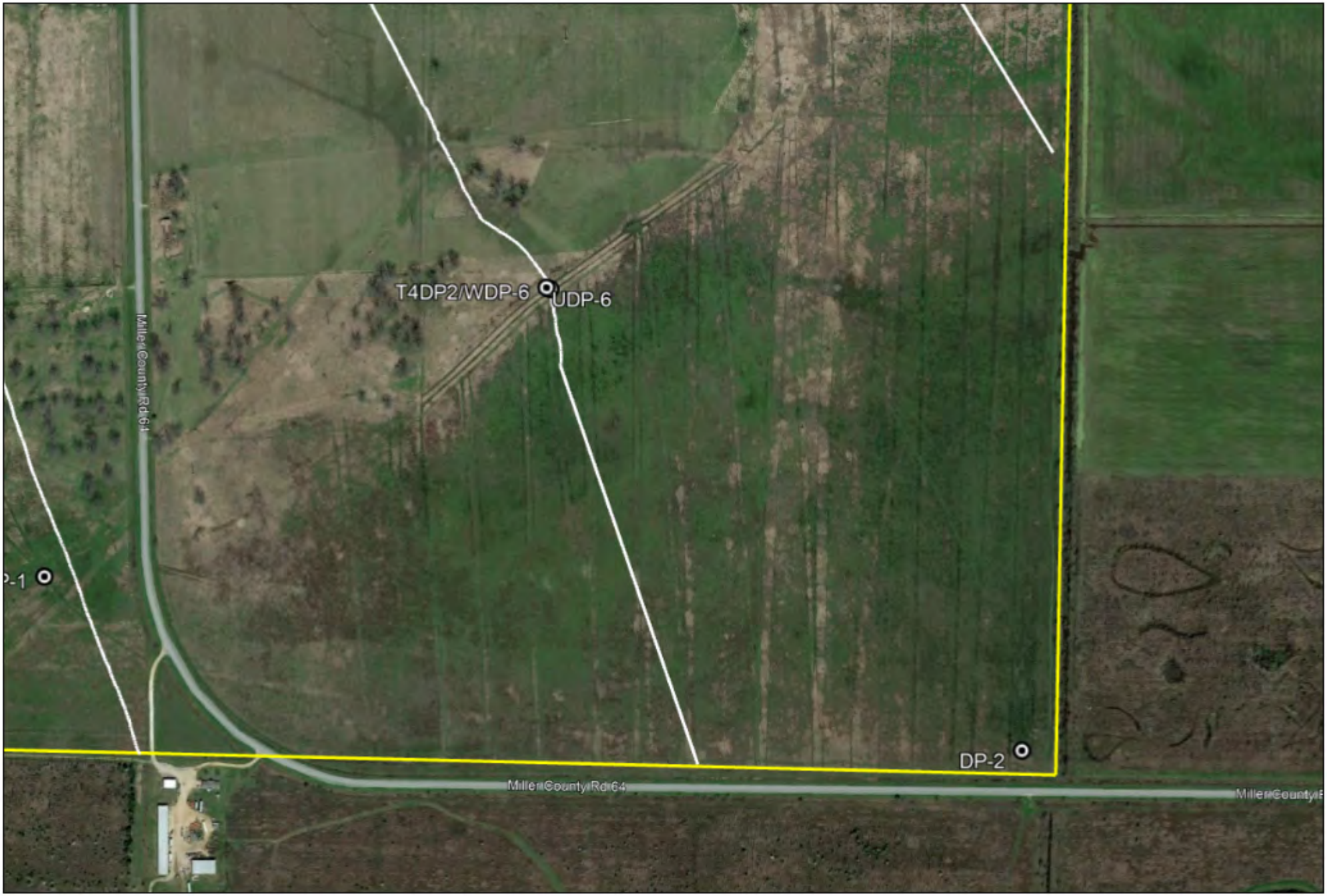


Figure 6 - Southeast Project Detail

REDI Arkansas Manufacturing Center
US Highway 67 and Miller County Road 64
Homan Township, Texarkana, Miller County, Arkansas 71854
ECS Project 51:2106-A (Rev. 1)

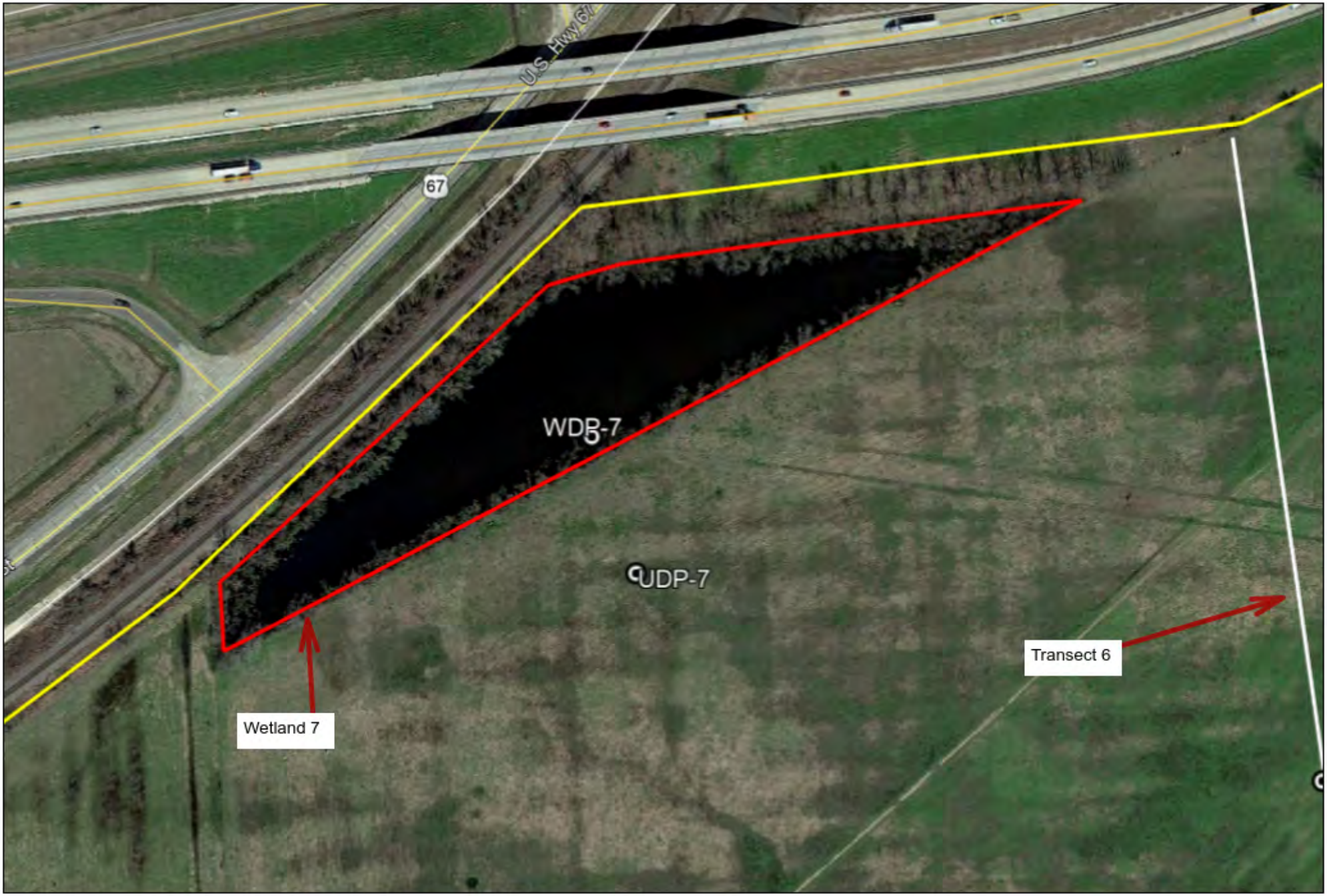


Figure 7 - Wetland 7 Detail

REDI Arkansas Manufacturing Center
US Highway 67 and Miller County Road 64
Homan Township, Texarkana, Miller County, Arkansas 71854
ECS Project 51:2106-A (Rev. 1)

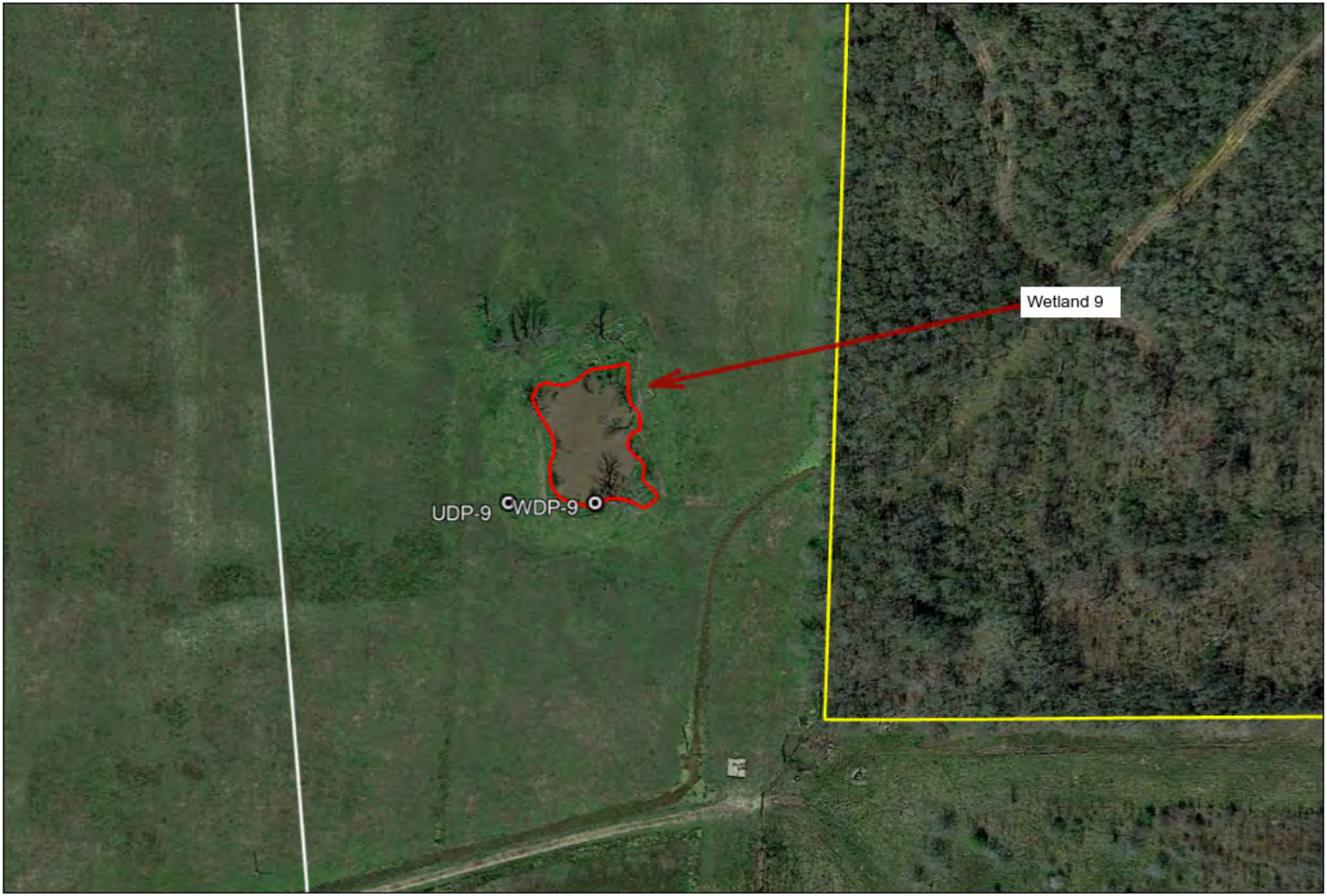


Figure 8 - Wetland 9 Detail

REDI Arkansas Manufacturing Center
US Highway 67 and Miller County Road 64
Homan Township, Texarkana, Miller County, Arkansas 71854
ECS Project 51:2106-A (Rev. 1)

Figure 9 - Wetland 10 Detail

REDI Arkansas Manufacturing Center
US Highway 67 and Miler County Road 64
Homan Township, Texarkana, Miler County, Arkansas 71854
ECS Project 51:2106-A (Rev. 1)

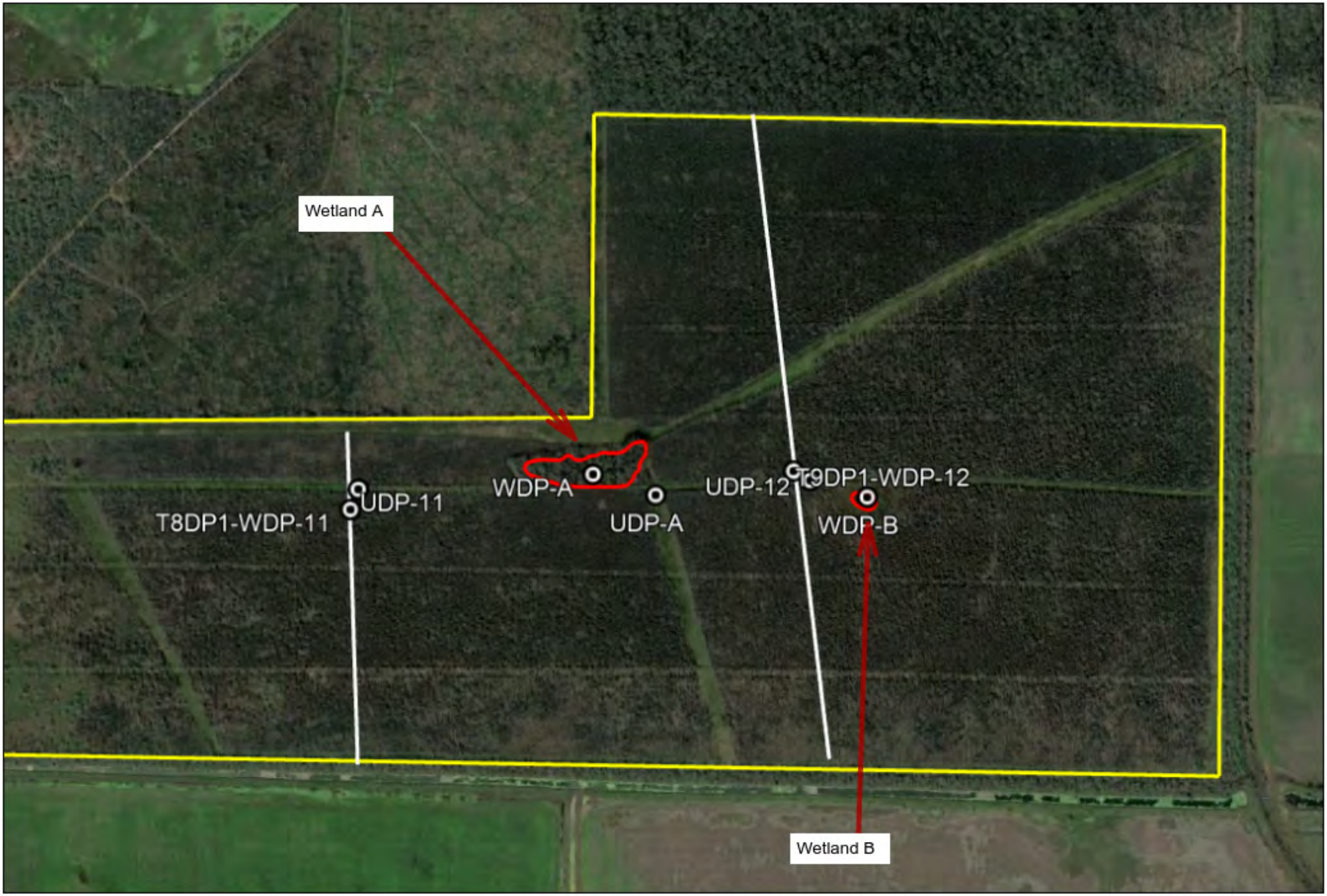


Figure 10 - Eastern Project Detail

REDI Arkansas Manufacturing Center
US Highway 67 and Miller County Road 64
Homan Township, Texarkana, Miller County, Arkansas 71854
ECS Project 51:2106-A (Rev. 1)

Appendix II: Attachments

Attachment 1:

NRCS Soil Map Report

United States Department of Agriculture

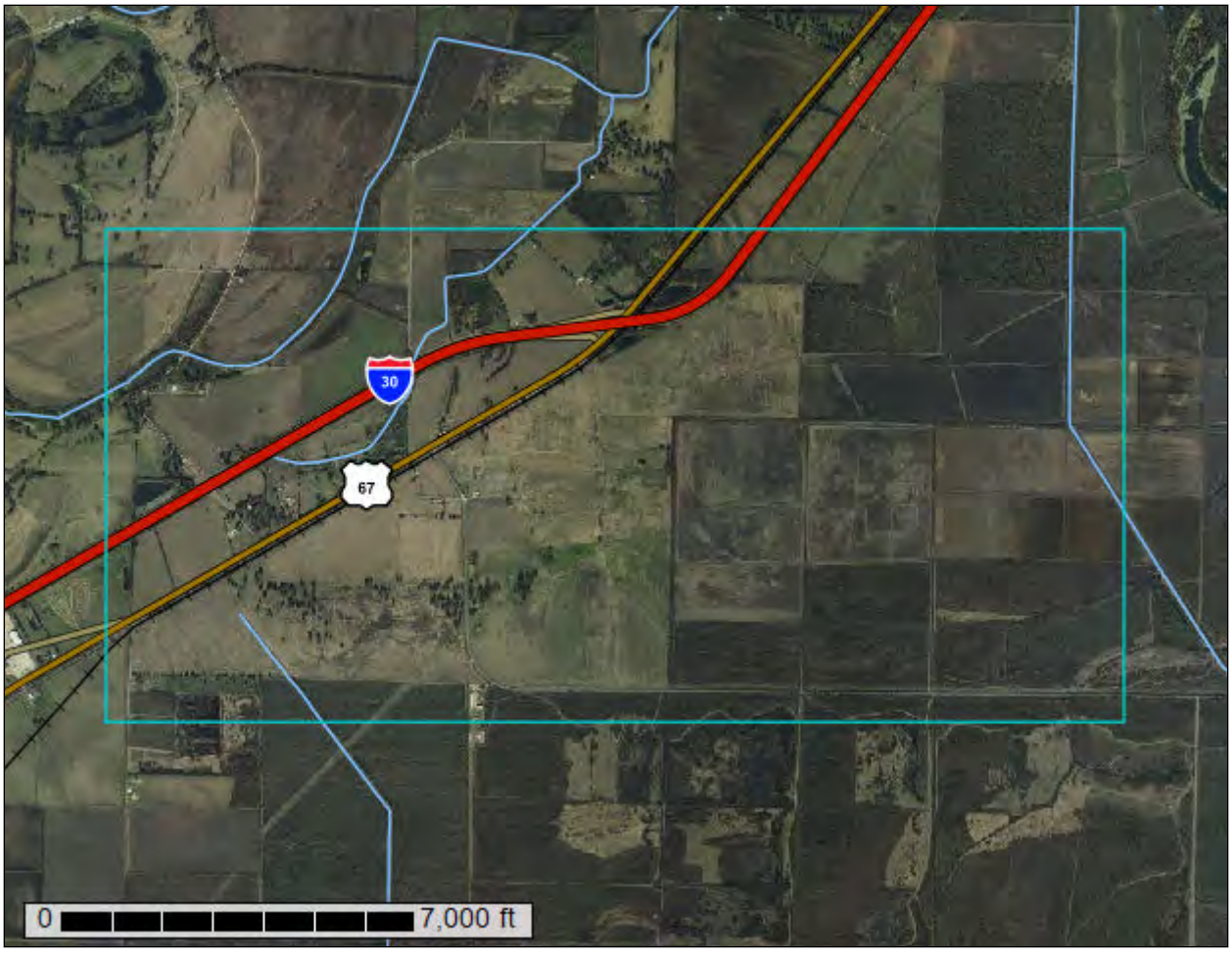
NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Lafayette, Little River, and Miller Counties, Arkansas

REDI Arkansas



March 25, 2021

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

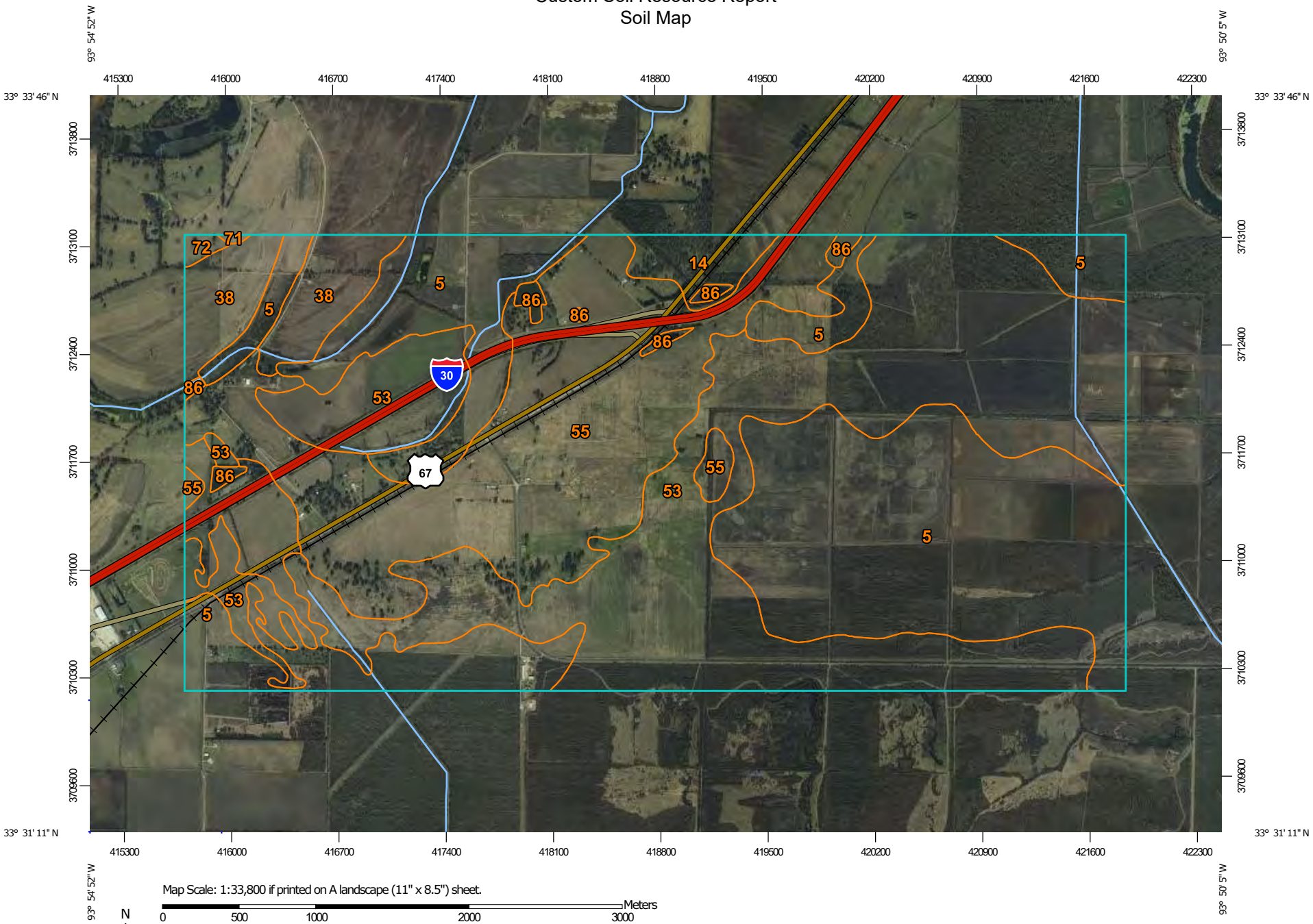
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lafayette, Little River, and Miller Counties, Arkansas
Survey Area Data: Version 20, Jun 9, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 14, 2019—Jan 7, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
5	Billyhaw clay, 0 to 1 percent slopes, rarely flooded	1,612.2	35.7%
14	Caspiana silt loam, 0 to 1 percent slopes	69.9	1.6%
38	Latanier clay, ridge and swale, 0 to 3 percent slopes	190.7	4.2%
53	Bossier clay, 0 to 1 percent slopes	1,594.9	35.4%
55	Rilla silt loam, 0 to 1 percent slopes	997.3	22.1%
71	Severn silt loam, 0 to 1 percent slopes, rarely flooded	2.0	0.0%
72	Severn silt loam, 0 to 3 percent slopes, gently undulating, rarely flooded	9.7	0.2%
86	Water	34.4	0.8%
Totals for Area of Interest		**4,511.1**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas

are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Lafayette, Little River, and Miller Counties, Arkansas

5—Billyhaw clay, 0 to 1 percent slopes, rarely flooded

Map Unit Setting

National map unit symbol: 2tglt
Elevation: 250 to 450 feet
Mean annual precipitation: 42 to 59 inches
Mean annual air temperature: 61 to 66 degrees F
Frost-free period: 200 to 260 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Billyhaw and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Billyhaw

Setting

Landform: Flood-plain steps
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Red river clayey alluvium over red river loamy alluvium

Typical profile

A - 0 to 7 inches: clay
Bw - 7 to 25 inches: clay
Bkss - 25 to 57 inches: clay
2Ck - 57 to 80 inches: silt loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: RareNone
Frequency of ponding: None
Calcium carbonate, maximum content: 8 percent
Maximum salinity: Nonsaline (0.1 to 0.3 mmhos/cm)
Available water capacity: Moderate (about 7.3 inches)

Interpretive groups

Land capability classification (irrigated): 3w
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: D
Ecological site: F131CY005LA - Clayey Floodplain
Hydric soil rating: No

Minor Components

Perry, frequently flooded

Percent of map unit: 10 percent
Landform: Backswamps
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: F131CY005LA - Clayey Floodplain
Hydric soil rating: Yes

Aquents, rarely flooded

Percent of map unit: 5 percent
Landform: Backswamps
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

14—Caspiana silt loam, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2s5kv
Elevation: 120 to 200 feet
Mean annual precipitation: 45 to 59 inches
Mean annual air temperature: 59 to 66 degrees F
Frost-free period: 219 to 293 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Caspiana and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Caspiana

Setting

Landform: Flood-plain steps
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Holocene loamy alluvium

Typical profile

Ap - 0 to 15 inches: silt loam
Bt - 15 to 27 inches: silt loam
C - 27 to 80 inches: silt loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: About 47 to 51 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline (0.1 to 0.3 mmhos/cm)
Available water capacity: High (about 11.1 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: B
Ecological site: F131CY002LA - Loamy Floodplain
Hydric soil rating: No

Minor Components

Armistead

Percent of map unit: 9 percent
Landform: Natural levees
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F131CY003LA - Clay Cap Floodplain
Hydric soil rating: No

Buxin, occasionally flooded

Percent of map unit: 1 percent
Landform: Flood-plain steps
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf, dip
Down-slope shape: Linear, concave
Across-slope shape: Concave, linear
Ecological site: F131CY005LA - Clayey Floodplain
Hydric soil rating: No

38—Latanier clay, ridge and swale, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2wdkw
Elevation: 180 to 310 feet
Mean annual precipitation: 42 to 59 inches
Mean annual air temperature: 59 to 70 degrees F

Frost-free period: 200 to 240 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Latanier and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Latanier

Setting

Landform: Flood-plain steps
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey alluvium over loamy alluvium

Typical profile

Ap - 0 to 4 inches: clay
Bss - 4 to 29 inches: clay
2Ck1 - 29 to 39 inches: silt loam
2Ck2 - 39 to 82 inches: stratified very fine sandy loam to loamy very fine sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 8 percent
Maximum salinity: Nonsaline (0.1 to 0.3 mmhos/cm)
Available water capacity: High (about 11.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: D
Ecological site: F131CY003LA - Clay Cap Floodplain
Hydric soil rating: No

Minor Components

Perry

Percent of map unit: 5 percent
Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: F131CY005LA - Clayey Floodplain
Hydric soil rating: Yes

Billyhaw

Percent of map unit: 5 percent

Landform: Flood-plain steps on river valleys
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F131CY005LA - Clayey Floodplain
Hydric soil rating: No

53—Bossier clay, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2tglf
Elevation: 60 to 300 feet
Mean annual precipitation: 42 to 59 inches
Mean annual air temperature: 55 to 70 degrees F
Frost-free period: 219 to 270 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Bossier and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bossier

Setting

Landform: Flood-plain steps
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Talf
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Clayey alluvium derived from sedimentary rock

Typical profile

Ap - 0 to 5 inches: clay
Bssg - 5 to 21 inches: clay
2Bss - 21 to 32 inches: clay
2Ck - 32 to 80 inches: clay

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 14 percent
Maximum salinity: Nonsaline (0.1 to 0.3 mmhos/cm)

Available water capacity: Moderate (about 6.8 inches)

Interpretive groups

Land capability classification (irrigated): 3w
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: D
Ecological site: F131CY005LA - Clayey Floodplain
Hydric soil rating: Yes

Minor Components

Billyhaw

Percent of map unit: 5 percent
Landform: Flood-plain steps
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Talf
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: F131CY005LA - Clayey Floodplain
Hydric soil rating: No

Latanier

Percent of map unit: 3 percent
Landform: Natural levees
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F131CY003LA - Clay Cap Floodplain
Hydric soil rating: No

Yorktown, frequently flooded

Percent of map unit: 2 percent
Landform: Backswamps
Landform position (three-dimensional): Talf
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: F131CY004LA - Wet Clay Bottomland
Hydric soil rating: Yes

55—Rilla silt loam, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: lyvl
Elevation: 50 to 100 feet
Mean annual precipitation: 42 to 59 inches
Mean annual air temperature: 61 to 66 degrees F
Frost-free period: 200 to 240 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Rilla and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rilla

Setting

Landform: Natural levees
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Silty and loamy alluvium

Typical profile

Ap - 0 to 7 inches: silt loam
Bt - 7 to 59 inches: silt loam
C - 59 to 80 inches: stratified silt loam to silty clay loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 48 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water capacity: Very high (about 12.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: B
Ecological site: F131CY002LA - Loamy Floodplain
Hydric soil rating: No

Minor Components

Perry

Percent of map unit: 5 percent
Landform: Backswamps
Down-slope shape: Concave
Across-slope shape: Convex
Ecological site: F131CY005LA - Clayey Floodplain
Hydric soil rating: Yes

Aquepts

Percent of map unit: 5 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Convex
Hydric soil rating: Yes

71—Severn silt loam, 0 to 1 percent slopes, rarely flooded

Map Unit Setting

National map unit symbol: 2tglh
Elevation: 130 to 200 feet
Mean annual precipitation: 42 to 61 inches
Mean annual air temperature: 54 to 77 degrees F
Frost-free period: 219 to 276 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Severn, rarely flooded, and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Severn, Rarely Flooded

Setting

Landform: Natural levees
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Holocene silty alluvium derived from sedimentary rock

Typical profile

Ap - 0 to 8 inches: silt loam
C - 8 to 75 inches: stratified very fine sandy loam to loam to silt loam
Ab - 75 to 80 inches: silt loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: NoneRare
Frequency of ponding: None
Calcium carbonate, maximum content: 7 percent
Maximum salinity: Nonsaline (0.1 to 0.3 mmhos/cm)
Available water capacity: High (about 10.2 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: A
Ecological site: F131CY002LA - Loamy Floodplain
Hydric soil rating: No

Minor Components

Coushatta

Percent of map unit: 7 percent
Landform: Natural levees
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F131CY002LA - Loamy Floodplain
Hydric soil rating: No

Unnamed, hydric

Percent of map unit: 3 percent
Landform: Natural levees
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Talf
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: Yes

72—Severn silt loam, 0 to 3 percent slopes, gently undulating, rarely flooded

Map Unit Setting

National map unit symbol: 2tglj
Elevation: 130 to 200 feet
Mean annual precipitation: 42 to 61 inches
Mean annual air temperature: 54 to 77 degrees F
Frost-free period: 219 to 276 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Severn, gently undulating, rarely flooded, and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Severn, Gently Undulating, Rarely Flooded

Setting

Landform: Point bars, natural levees
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Holocene silty alluvium derived from sedimentary rock

Typical profile

A - 0 to 4 inches: silt loam
C - 4 to 80 inches: stratified very fine sandy loam to silt loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: NoneRare
Frequency of ponding: None
Calcium carbonate, maximum content: 2 percent
Maximum salinity: Nonsaline (0.1 to 0.3 mmhos/cm)
Available water capacity: High (about 9.6 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: A
Ecological site: F131CY002LA - Loamy Floodplain
Hydric soil rating: No

Minor Components

Coushatta

Percent of map unit: 6 percent
Landform: Natural levees
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F131CY002LA - Loamy Floodplain
Hydric soil rating: No

Kiomatia, frequently flooded

Percent of map unit: 5 percent
Landform: Point bars
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F131CY001LA - Sandy Floodplain
Hydric soil rating: No

Severn, frequently flooded

Percent of map unit: 4 percent
Landform: Natural levees
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F131CY002LA - Loamy Floodplain
Hydric soil rating: No

86—Water

Map Unit Setting

National map unit symbol: lywn
Mean annual precipitation: 42 to 59 inches
Mean annual air temperature: 61 to 66 degrees F
Frost-free period: 200 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

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Attachment 2:

National Wetlands Inventory Map

U.S. Fish and Wildlife Service

National Wetlands Inventory

Texarkana

February 23, 2021

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

Attachment 3:

FEMA Flood Insurance Rate Map

NOTES TO USERS

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NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, MD 20910- 3282

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Contact the **FEMA Map Service Center** at 1-800- 358- 9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, *a Flood Insurance Study report,* and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1- 800- 358- 9620 and its website at http://www.msc.fema.gov/.

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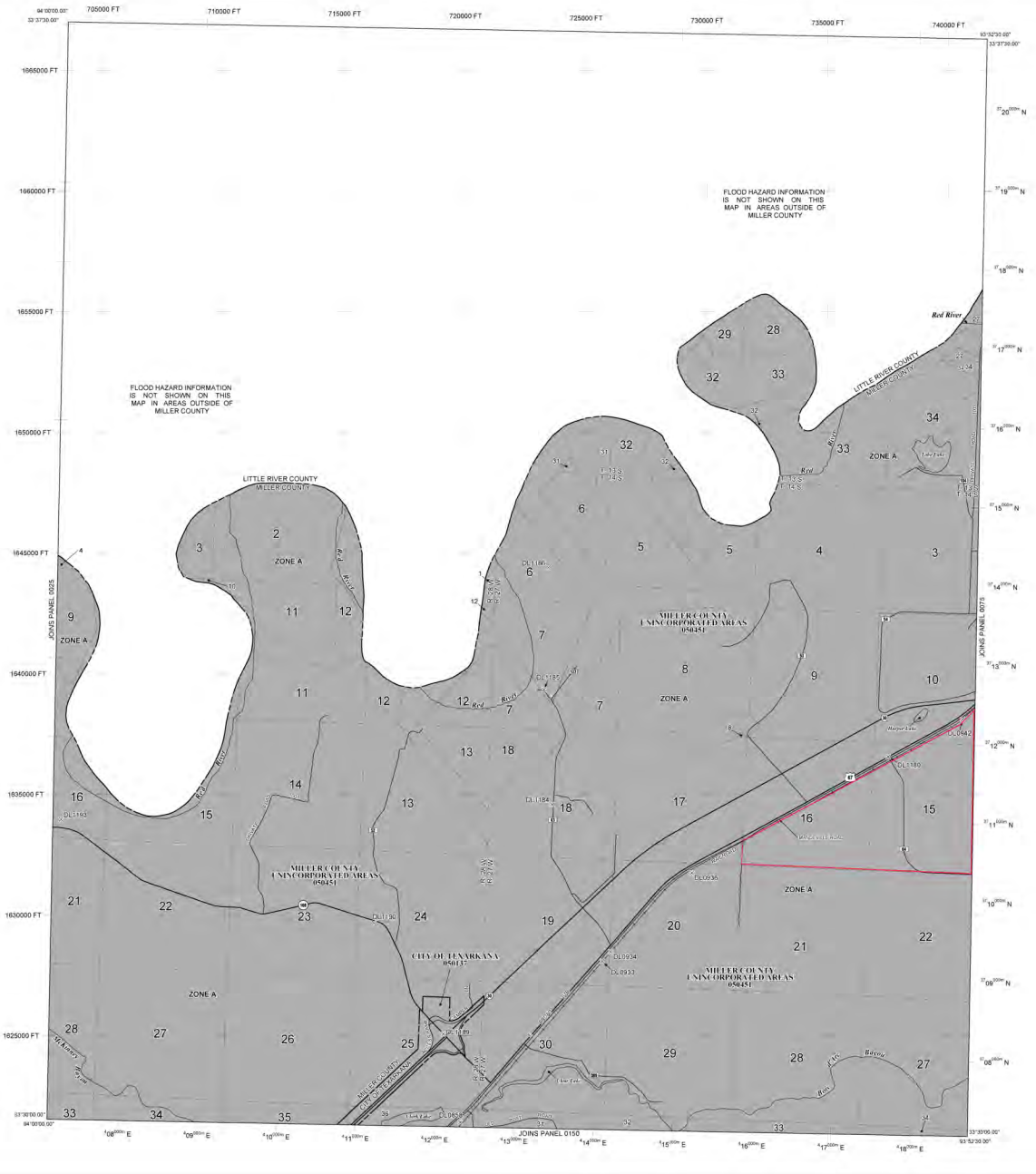

LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- Floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988 (NAVD 88)

- A — A — Cross section line
- 23 — 23 — Transect line
- 87°07'30", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
- 4275000mN — 1000-meter Universal Transverse Mercator grid ticks, zone 15
- 6000000 FT — 5000-foot grid ticks: Arkansas State Plane coordinate system, south zone (FIPSZONE 0302), Lambert Conformal Conic
- DX5510 — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 — River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
December 18, 2009
EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

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MAP SCALE 1" = 2000'
1000 0 2000 4000 FEET
300 0 600 1200 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0050D

FIRM

FLOOD INSURANCE RATE MAP

MILLER COUNTY, ARKANSAS AND INCORPORATED AREAS

PANEL 50 OF 475
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
MILLER COUNTY	050491	0050	D
TEXARKANA, CITY OF	050137	0050	D

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
05091C0050D

EFFECTIVE DATE
DECEMBER 18, 2009

Federal Emergency Management Agency

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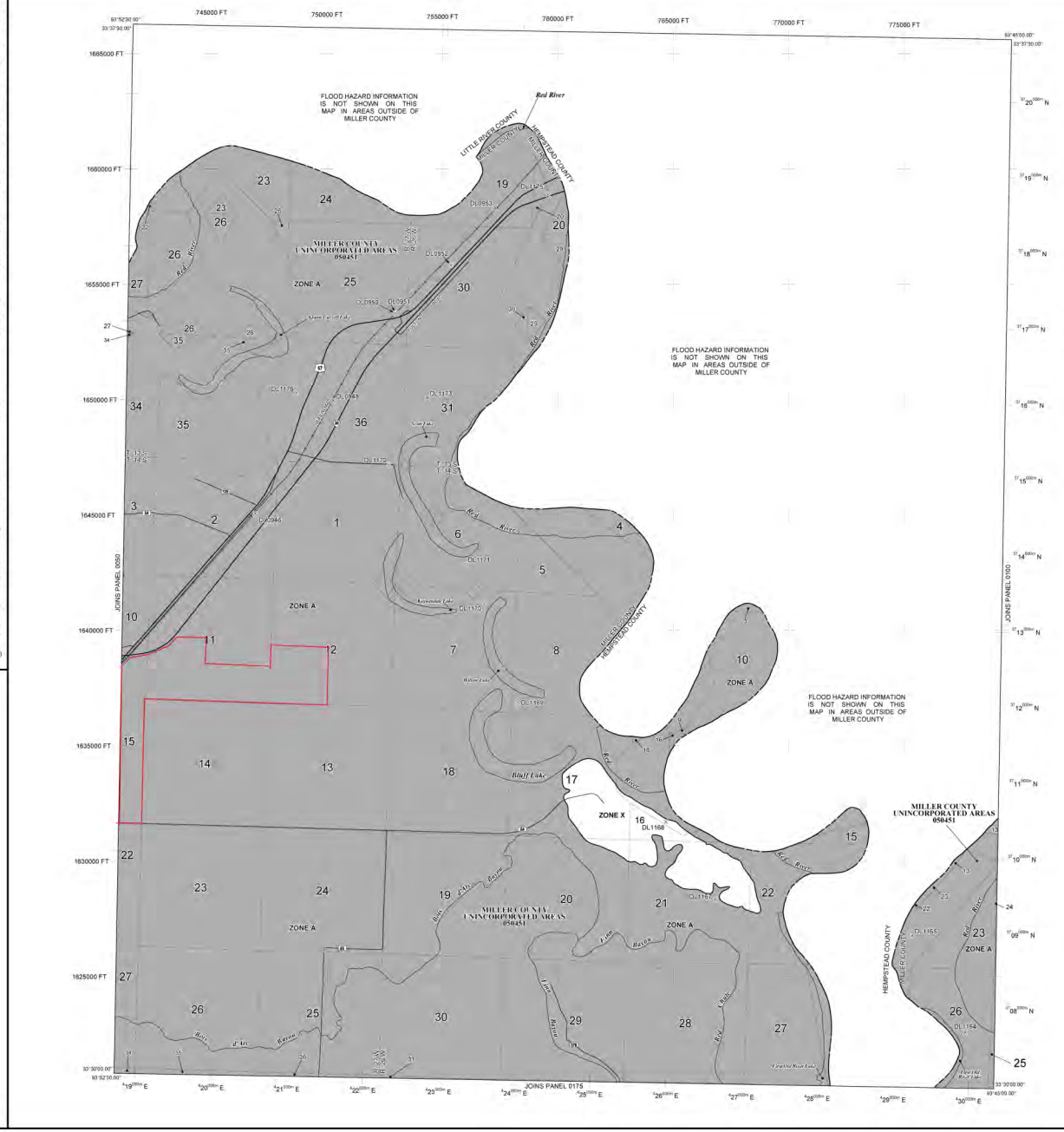

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300 0 600 1200 METERS

NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0075D

FIRM
FLOOD INSURANCE RATE MAP
MILLER COUNTY, ARKANSAS
AND INCORPORATED AREAS

PANEL 75 OF 475
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
MILLER COUNTY	050451	0075	D

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MAP NUMBER
05091C0075D
EFFECTIVE DATE
DECEMBER 18, 2009

Federal Emergency Management Agency

Appendix III: Photographic Log

1 - WDP-1

2 - Soils at WDP-1

3 - Wetland 1

4 - UDP-1

5 - Soils at UDP-1

6 - Project from the southern boundary

7 - T1DP1

8 - Soils at T1DP1

9 - WDP-2

10 - Wetland 2, drainage ditch on the western portion of the Project

11 - Soils at WDP-2

12 - UDP-2

13 - Soils at UDP-2

14 - WDP-3

15 - Area of WDP-3

16 - Soils at WDP-3

17 - UDP-3

18 - Soils at UDP-3

19 - WDP-4

20 - Area of WDP-4

21 - Soils at WDP-4

22 - UDP-4

23 - Soils at UDP-4

24 - T2DP1

25 - Soils at T2DP1

26 - Soils at T2DP1/WDP-5

27 - UDP-5

28 - Soils at UDP-5

29 - T3DP1

30 - Soils at T3DP1

31 - T4DP1

32 - Soils at T4DP1

33 - Soils at T4DP2/WDP-6

34 - UDP-6

35 - Soils at UDP-6

36 - Area of T5DP1

37 - Wetland 7

38 - UDP-7

39 - T6DP1

40 - Wetland 9

41 - Wetland 9

42 - Wetland 10/WDP-10

43 - Soils at WDP-10

44 - Soils at UDP-10

45 - UDP-10

46 - Road through the eastern wooded area

47 - UDP-11

48 - UDP-12

49 - Soils at UDP-11

50 - Northeast pasture

51 - Northeast pasture

52 - Road through eastern portion of the Project

53 - Eastern portion of Project

54 - Forest on the eastern portion of the Project

55 - Soils at UDP-A

56 - Wetland A

57 - Wetland B

58 - South-central portion of the Project

59 - South-central portion of the Project

60 - DP-1

61 - Vegetation at DP-1

62 - Soils at DP-1

63 - Southeastern corner of the Project

64 - Southeastern corner of the Project

Appendix IV: USACE Wetland Data Forms and Stream Data Forms

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: REDI Arkansas City/County: Homan Township, Texarkana, Miller Count Sampling Date: 10/20/2021
Applicant/Owner: AR-TX REDI State: Arkansas Sampling Point: DP-1
Investigator(s): Roger Willis Section, Township, Range:
Landform (hillslope, terrace, etc): pasture Local relief (concave, convex, none): concave Slope (%): 0
Subregion (LRR or MLRA): LRR O Lat: 33.532434 Long: -93.885757 Datum: WGS 1984
Soil Map Unit Name: Bossier clay, 0 to 1 percent slopes NWI classification: Non-wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X			
Hydric Soil Present?	Yes X	No ____	**Is the Sampled Area**		
Wetland Hydrology Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X

Remarks:

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 Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- X Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____		
Water Table Present?	Yes ____	No X	Depth (inches): ____		
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____	**Wetland Hydrology Present?**	Yes ____ No X

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

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants. Sampling Point: DP-1

Tree Stratum (Plot size: r=30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		
Sapling/Shrub Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 1 sq. meter)			
1. *Cynodon dactylon* / Bermuda grass	80	Yes	FACU
2. *Torilis nodosa* / Wild parsley, Short sock-destroyer	20	No	UPL
3. *Poa pratensis* / Kentucky blue grass	20	No	FACU
4. *Eleocharis lanceolata* / Dagger-leaf spike-rush	15	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	135	= Total Cover	
50% of total cover: 67	20% of total cover: 27		
Woody Vine Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	15	x 2 =	30	
FAC species	0	x 3 =	0	
FACU species	100	x 4 =	400	
UPL species	20	x 5 =	100	
Column Totals:	135	(A)	530	(B)

Prevalence Index = B/A = 3.93

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata

Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks: (if observed, list morphological adaptions below).

SOIL

Sampling Point: DP-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	7.5YR 5/1	80	7.5YR 6/8	20	C	M	clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: REDI Arkansas City/County: Homan Township, Texarkana, Miller Count Sampling Date: 10/20/2021
Applicant/Owner: AR-TX REDI State: Arkansas Sampling Point: DP-2
Investigator(s): Roger Willis Section, Township, Range:
Landform (hillslope, terrace, etc): pasture Local relief (concave, convex, none): none Slope (%): 2
Subregion (LRR or MLRA): LRR O Lat: 33.530349 Long: -93.87175 Datum: WGS 1984
Soil Map Unit Name: Bossier clay, 0 to 1 percent slopes NWI classification: Non-wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation X, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X			
Hydric Soil Present?	Yes X	No ____	**Is the Sampled Area**		
Wetland Hydrology Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X

Remarks:
Data point appeared to have been tilled recently

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 Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ 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)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches):	

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants. Sampling Point: DP-2

Tree Stratum (Plot size: r=30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		
Sapling/Shrub Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 1 sq. meter)			
1. *Cynodon dactylon* / Bermuda grass	35	Yes	FACU
2. *Torilis nodosa* / Wild parsley, Short sock-destroyer	10	Yes	UPL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	45	= Total Cover	
50% of total cover: 22	20% of total cover: 9		
Woody Vine Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	35	x 4 =	140
UPL species	10	x 5 =	50
Column Totals:	45 (A)		190 (B)

Prevalence Index = B/A = 4.22

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata

Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks: (if observed, list morphological adaptions below).
Area of the data point appeared to have been tilled.

SOIL

Sampling Point: DP-2

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	7.5YR 2.5/1	90	7.5YR 6/8	10	C	M	clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

Area of the data point appeared to have been tilled.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: REDI Arkansas City/County: Homan Township, Texarkana, Miller Count Sampling Date: 03/02/2021
Applicant/Owner: AR-TX REDI State: Arkansas Sampling Point: WDP-1
Investigator(s): Roger Willis Section, Township, Range:
Landform (hillslope, terrace, etc): field Local relief (concave, convex, none): concave Slope (%): 0
Subregion (LRR or MLRA): LRR P Lat: 33.533037 Long: -93.905303 Datum: WGS 1984
Soil Map Unit Name: Billyhaw clay, 0 to 1 percent slopes, rarely flooded NWI classification: Non-wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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	X	No		
Hydric Soil Present?	Yes	X	No	**Is the Sampled Area**	
Wetland Hydrology Present?	Yes	X	No	**within a Wetland?**	Yes X No ____

Remarks:
High precipitation in the preceding weeks.

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X Inundation Visible on Aerial Imagery (B7)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ 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)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes	X	No	Depth (inches):	5
Water Table Present?	Yes		No	X	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes		No	X	Depth (inches):

Wetland Hydrology Present? Yes X No ____

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

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants.

Sampling Point: WDP-1

Tree Stratum (Plot size: r = 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus crassifolia* / Cedar elm	25	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	25	= Total Cover	

50% of total cover: 12 20% of total cover: 5

Sapling/Shrub Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	

50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot size: 1 square meter)			
1. *Paspalum bifidum* / Pitchfork crown grass	50	Yes	FACW
2. *Cynodon dactylon* / Bermuda grass	30	Yes	FACU
3. *Ranunculus fascicularis* / Early buttercup	15	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	95	= Total Cover	

50% of total cover: 47 20% of total cover: 19

Woody Vine Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	50	x 2 =	100
FAC species	40	x 3 =	120
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals:	120 (A)		340 (B)

Prevalence Index = B/A = 2.83

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

Remarks (if observed, list morphological adaptions below).

SOIL

Sampling Point: WDP-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/2	80	10YR 3/6	20	C	M	clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: REDI Arkansas City/County: Homan Township, Texarkana, Miller Count Sampling Date: 03/02/2021
Applicant/Owner: AR-TX REDI State: Arkansas Sampling Point: UDP-1
Investigator(s): Roger Willis Section, Township, Range:
Landform (hillslope, terrace, etc): field Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR or MLRA): LRR P Lat: 33.532974 Long: -93.905628 Datum: WGS 1984
Soil Map Unit Name: Billyhaw clay, 0 to 1 percent slopes, rarely flooded NWI classification: Non-wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X			

Remarks:
High precipitation in preceding weeks.

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 Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ 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)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches):	

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants. Sampling Point: UDP-1

Tree Stratum (Plot size: r=30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		
Sapling/Shrub Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 1 square meter)			
1. *Medicago minima* / Small bur clover, Burclover	100	Yes	UPL
2. *Cynodon dactylon* / Bermuda grass	60	Yes	FACU
3. *Festuca versuta* / Texas fescue	40	No	UPL
4. *Physalis heterophylla* / Clammy groundcherry	20	No	UPL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	220	= Total Cover	
50% of total cover: 110	20% of total cover: 44		
Woody Vine Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	60	x 4 =	240	
UPL species	160	x 5 =	800	
Column Totals:	220	(A)	1040	(B)

Prevalence Index = B/A = 4.73

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks (if observed, list morphological adaptions below).

SOIL

Sampling Point: UDP-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	7.5YR 4/4	95	7.5YR 6/8	5	C	M	clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: REDI Arkansas City/County: Homan Township, Texarkana, Miller Count Sampling Date: 03/02/2021
Applicant/Owner: AR-TX REDI State: Arkansas Sampling Point: T1DP1
Investigator(s): Roger Willis Section, Township, Range:
Landform (hillslope, terrace, etc): field Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR or MLRA): LRR P Lat: 33.531082 Long: -93.898774 Datum: WGS 1984
Soil Map Unit Name: Bossier clay, 0 to 1 percent slopes NWI classification: Non-wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X			

Remarks:
High precipitation in preceding weeks.

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 Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ 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)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches):	

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants. Sampling Point: T1DP1

Tree Stratum (Plot size: r=30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		
Sapling/Shrub Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 1 square meter)			
1. *Cynodon dactylon* / Bermuda grass	100	Yes	FACU
2. *Festuca versuta* / Texas fescue	100	Yes	UPL
3. *Physalis heterophylla* / Clammy groundcherry	15	No	UPL
4. *Ranunculus fascicularis* / Early buttercup	10	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	225	= Total Cover	
50% of total cover: 112	20% of total cover: 45		
Woody Vine Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	10	x 3 =	30	
FACU species	100	x 4 =	400	
UPL species	115	x 5 =	575	
Column Totals:	225	(A)	1005	(B)

Prevalence Index = B/A = 4.47

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks (if observed, list morphological adaptions below).

SOIL

Sampling Point: T1DP1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	5YR 4/4	100					sandy clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: REDI Arkansas City/County: Homan Township, Texarkana, Miller Count Sampling Date: 03/02/2021
Applicant/Owner: AR-TX REDI State: Arkansas Sampling Point: WDP-2
Investigator(s): Roger Willis Section, Township, Range:
Landform (hillslope, terrace, etc): drainage canal Local relief (concave, convex, none): concave Slope (%): 3
Subregion (LRR or MLRA): LRR P Lat: 33.53594 Long: -93.900115 Datum: WGS 1984
Soil Map Unit Name: Bossier clay, 0 to 1 percent slopes NWI classification: Non-wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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	X	No		
Hydric Soil Present?	Yes	X	No	**Is the Sampled Area**	
Wetland Hydrology Present?	Yes	X	No	**within a Wetland?**	Yes X No ____

Remarks:
High precipitation in preceding weeks.

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- X Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ 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)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes	X	No	____	Depth (inches):	3
Water Table Present?	Yes	____	No	X	Depth (inches):	____
Saturation Present? (includes capillary fringe)	Yes	____	No	X	Depth (inches):	____

Wetland Hydrology Present? Yes X No ____

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

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants. Sampling Point: WDP-2

Tree Stratum (Plot size: r=30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus crassifolia* / Cedar elm	15	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	15	= Total Cover	

50% of total cover: 7 20% of total cover: 3

Sapling/Shrub Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	

50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot size: 1 square meter)			
1. *Ranunculus fascicularis* / Early buttercup	30	Yes	FAC
2. *Cynodon dactylon* / Bermuda grass	20	Yes	FACU
3. *Ludwigia peploides* / Marsh purslane	20	Yes	OBL
4. *Rumex crispus* / Curly dock	5	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	75	= Total Cover	

50% of total cover: 37 20% of total cover: 15

Woody Vine Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	0	x 2 =	0
FAC species	50	x 3 =	150
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	90 (A)		250 (B)

Prevalence Index = B/A = 2.78

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

Remarks (if observed, list morphological adaptions below).

SOIL

Sampling Point: WDP-2

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	7.5YR 4/4	85	10YR 6/8	15	C	M	clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: REDI Arkansas City/County: Homan Township, Texarkana, Miller Count Sampling Date: 03/02/2021
Applicant/Owner: AR-TX REDI State: Arkansas Sampling Point: UDP-2
Investigator(s): Roger Willis Section, Township, Range:
Landform (hillslope, terrace, etc): field Local relief (concave, convex, none): convex Slope (%): 1
Subregion (LRR or MLRA): LRR P Lat: 33.535901 Long: -93.900171 Datum: WGS 1984
Soil Map Unit Name: Bossier clay, 0 to 1 percent slopes NWI classification: Non-wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X			

Remarks:
High precipitation in preceding weeks.

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 Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ 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)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches):	

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants. Sampling Point: UDP-2

Tree Stratum (Plot size: r=30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus crassifolia* / Cedar elm	15	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	15	= Total Cover	

50% of total cover: 7 20% of total cover: 3

Sapling/Shrub Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	

50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot size: 1 square meter)			
1. *Cynodon dactylon* / Bermuda grass	100	Yes	FACU
2. *Medicago minima* / Small bur clover, Burclover	20	No	UPL
3. *Ranunculus fascicularis* / Early buttercup	10	No	FAC
4. *Rumex crispus* / Curly dock	5	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	135	= Total Cover	

50% of total cover: 67 20% of total cover: 27

Woody Vine Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	30	x 3 =	90
FACU species	100	x 4 =	400
UPL species	20	x 5 =	100
Column Totals:	150 (A)		590 (B)

Prevalence Index = B/A = 3.93

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks (if observed, list morphological adaptions below).

SOIL

Sampling Point: UDP-2

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

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

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: REDI Arkansas City/County: Homan Township, Texarkana, Miller Count Sampling Date: 03/02/2021
Applicant/Owner: AR-TX REDI State: Arkansas Sampling Point: WDP-3
Investigator(s): Roger Willis Section, Township, Range:
Landform (hillslope, terrace, etc): pasture Local relief (concave, convex, none): concave Slope (%): 1
Subregion (LRR or MLRA): LRR P Lat: 33.535549 Long: -93.896232 Datum: WGS 1984
Soil Map Unit Name: Rilla silt loam, 0 to 1 percent slopes NWI classification: Non-wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	
Hydric Soil Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No X
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
High precipitation in preceding weeks.

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- X Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ 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)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 2
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

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

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants. Sampling Point: WDP-3

Tree Stratum (Plot size: r=30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		
Sapling/Shrub Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 1 square meter)			
1. *Ranunculus fascicularis* / Early buttercup	70	Yes	FAC
2. *Cynodon dactylon* / Bermuda grass	40	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	110	= Total Cover	
50% of total cover: 55	20% of total cover: 22		
Woody Vine Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	70	x 3 =	210
FACU species	40	x 4 =	160
UPL species	0	x 5 =	0
Column Totals:	110 (A)		370 (B)

Prevalence Index = B/A = 3.36

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks (if observed, list morphological adaptions below).

SOIL

Sampling Point: WDP-3

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 4/3	75	7.5YR 4/6	25	C	M	clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: REDI Arkansas City/County: Homan Township, Texarkana, Miller Count Sampling Date: 03/02/2021
Applicant/Owner: AR-TX REDI State: Arkansas Sampling Point: UDP-3
Investigator(s): Roger Willis Section, Township, Range:
Landform (hillslope, terrace, etc): pasture Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR or MLRA): LRR P Lat: 33.535479 Long: -93.896253 Datum: WGS 1984
Soil Map Unit Name: Rilla silt loam, 0 to 1 percent slopes NWI classification: Non-wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X			

Remarks:
High precipitation in preceding weeks.

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 Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ 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)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches):	

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants.

Sampling Point: UDP-3

Tree Stratum (Plot size: r=30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Carya illinoinensis* / Pecan	65	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	65	= Total Cover	
50% of total cover: 32		20% of total cover: 13	

Sapling/Shrub Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0		20% of total cover: 0	

Herb Stratum (Plot size: 1 square meter)			
1. *Cynodon dactylon* / Bermuda grass	100	Yes	FACU
2. *Physalis heterophylla* / Clammy groundcherry	40	Yes	UPL
3. *Medicago minima* / Small bur clover, Burclover	20	No	UPL
4. *Ranunculus fascicularis* / Early buttercup	20	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	180	= Total Cover	
50% of total cover: 90		20% of total cover: 36	

Woody Vine Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
50% of total cover: 0		20% of total cover: 0	

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	20	x 3 =	60
FACU species	165	x 4 =	660
UPL species	60	x 5 =	300
Column Totals:	245 (A)		1020 (B)

Prevalence Index = B/A = 4.16

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks (if observed, list morphological adaptions below).

SOIL

Sampling Point: UDP-3

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	7.5YR 3/1	100					clay	
3-18	7.5YR 4/4	100					clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: REDI Arkansas City/County: Homan Township, Texarkana, Miller Count Sampling Date: 03/02/2021
Applicant/Owner: AR-TX REDI State: Arkansas Sampling Point: WDP-4
Investigator(s): Roger Willis Section, Township, Range:
Landform (hillslope, terrace, etc): pasture Local relief (concave, convex, none): concave Slope (%): 0
Subregion (LRR or MLRA): LRR P Lat: 33.535336 Long: -93.896061 Datum: WGS 1984
Soil Map Unit Name: Rilla silt loam, 0 to 1 percent slopes NWI classification: Non-wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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	X	No		
Hydric Soil Present?	Yes		No	X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Wetland Hydrology Present?	Yes	X	No		

Remarks:
High precipitation in preceding weeks.

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ 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)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes	X	No		Depth (inches): 3
Water Table Present?	Yes		No	X	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes		No	X	Depth (inches):

Wetland Hydrology Present? Yes X No ____

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

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants. Sampling Point: WDP-4

Tree Stratum (Plot size: r=30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		
Sapling/Shrub Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 1 square meter)			
1. *Ranunculus fascicularis* / Early buttercup	35	Yes	FAC
2. *Paspalum bifidum* / Pitchfork crown grass	10	No	FACW
3. *Rumex crispus* / Curly dock	10	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	55	= Total Cover	
50% of total cover: 27	20% of total cover: 11		
Woody Vine Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	45	x 3 =	135
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	55 (A)		155 (B)

Prevalence Index = B/A = 2.82

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

Remarks (if observed, list morphological adaptions below).

SOIL

Sampling Point: WDP-4

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	7.5YR 5/2	100					silty clay	
3-16	5YR 5/4	100					silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: REDI Arkansas City/County: Homan Township, Texarkana, Miller Count Sampling Date: 03/02/2021
Applicant/Owner: AR-TX REDI State: Arkansas Sampling Point: UDP-4
Investigator(s): Roger Willis Section, Township, Range:
Landform (hillslope, terrace, etc): pasture Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR or MLRA): LRR P Lat: 33.535406 Long: -93.896011 Datum: WGS 1984
Soil Map Unit Name: Rilla silt loam, 0 to 1 percent slopes NWI classification: Non-wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X			

Remarks:
High precipitation in preceding weeks.

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 Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ 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)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches):	

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants.

Sampling Point: UDP-4

Tree Stratum (Plot size: r=30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Carya illinoinensis* / Pecan	35	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	35	= Total Cover	
50% of total cover: 17		20% of total cover: 7	

Sapling/Shrub Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0		20% of total cover: 0	

Herb Stratum (Plot size: 1 square meter)			
1. *Cynodon dactylon* / Bermuda grass	100	Yes	FACU
2. *Medicago minima* / Small bur clover, Burclover	60	Yes	UPL
3. *Festuca versuta* / Texas fescue	15	No	UPL
4. *Digitaria ciliaris* / Southern crabgrass	10	No	FACU
5. *Rumex crispus* / Curly dock	5	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	190	= Total Cover	
50% of total cover: 95		20% of total cover: 38	

Woody Vine Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
50% of total cover: 0		20% of total cover: 0	

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	145	x 4 =	580
UPL species	75	x 5 =	375
Column Totals:	225 (A)		970 (B)

Prevalence Index = B/A = 4.31

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks (if observed, list morphological adaptions below).

SOIL

Sampling Point: UDP-4

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	7.5YR 4/4	100					silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: REDI Arkansas City/County: Homan Township, Texarkana, Miller Count Sampling Date: 03/02/2021
Applicant/Owner: AR-TX REDI State: Arkansas Sampling Point: T2DP1
Investigator(s): Roger Willis Section, Township, Range:
Landform (hillslope, terrace, etc): pasture Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR or MLRA): LRR P Lat: 33.538028 Long: -93.894883 Datum: WGS 1984
Soil Map Unit Name: Rilla silt loam, 0 to 1 percent slopes NWI classification: Non-wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X			

Remarks:
High precipitation in preceding weeks.

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 Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ 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)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches):	

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants. Sampling Point: T2DP1

Tree Stratum (Plot size: r=30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	

50% of total cover: 0 20% of total cover: 0

Sapling/Shrub Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	

50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot size: 1 square meter)			
1. *Cynodon dactylon* / Bermuda grass	60	Yes	FACU
2. *Festuca versuta* / Texas fescue	60	Yes	UPL
3. *Ranunculus fascicularis* / Early buttercup	15	No	FAC
4. *Medicago minima* / Small bur clover, Burclover	10	No	UPL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	145	= Total Cover	

50% of total cover: 72 20% of total cover: 29

Woody Vine Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	15	x 3 =	45
FACU species	60	x 4 =	240
UPL species	70	x 5 =	350
Column Totals:	145 (A)		635 (B)

Prevalence Index = B/A = 4.38

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks (if observed, list morphological adaptions below).

SOIL

Sampling Point: T2DP1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	7.5YR 4/4	100					sandy clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: REDI Arkansas City/County: Homan Township, Texarkana, Miller Count Sampling Date: 03/02/2021
Applicant/Owner: AR-TX REDI State: Arkansas Sampling Point: T2DP2/WDP-5
Investigator(s): Roger Willis Section, Township, Range:
Landform (hillslope, terrace, etc): pasture Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR or MLRA): LRR P Lat: 33.532119 Long: -93.891873 Datum: WGS 1984
Soil Map Unit Name: Bossier clay, 0 to 1 percent slopes NWI classification: Non-wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	No ____	
Hydric Soil Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
High precipitation in preceding weeks.

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- X Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ 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)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 2
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

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

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants. Sampling Point: T2DP2/WDP-5

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: r=30')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling/Shrub Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 1 square meter)			
1. *Ludwigia peploides* / Marsh purslane	75	Yes	OBL
2. *Paspalum bifidum* / Pitchfork crown grass	25	Yes	FACW
3. *Ranunculus fascicularis* / Early buttercup	15	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	115 = Total Cover		
50% of total cover: 57	20% of total cover: 23		
Woody Vine Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	75	x 1 =	75
FACW species	25	x 2 =	50
FAC species	15	x 3 =	45
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	115 (A)		170 (B)

Prevalence Index = B/A = 1.48

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

Remarks (if observed, list morphological adaptions below).

SOIL

Sampling Point: T2DP2/WDP-5

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/1	90	7.5YR 6/8	10	C	M	silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: REDI Arkansas City/County: Homan Township, Texarkana, Miller Count Sampling Date: 10/20/2021
Applicant/Owner: AR-TX REDI State: Arkansas Sampling Point: T2DP2/WDP-5
Investigator(s): Roger Willis Section, Township, Range:
Landform (hillslope, terrace, etc): pasture Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR or MLRA): LRR P Lat: 33.532119 Long: -93.891873 Datum: WGS 1984
Soil Map Unit Name: Bossier clay, 0 to 1 percent slopes NWI classification: Non-wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X			
Hydric Soil Present?	Yes X	No ____	**Is the Sampled Area**		
Wetland Hydrology Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X

Remarks:

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 Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ 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)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____		
Water Table Present?	Yes ____	No X	Depth (inches): ____		
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____	**Wetland Hydrology Present?**	Yes ____ No X

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

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants. Sampling Point: T2DP2/WDP-5

Tree Stratum (Plot size: r=30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		
Sapling/Shrub Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 1 square meter)			
1. *Cynodon dactylon* / Bermuda grass	95	Yes	FACU
2. *Festuca versuta* / Texas fescue	60	Yes	UPL
3. *Torilis nodosa* / Wild parsley, Short sock-destroyer	10	No	UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	165	= Total Cover	
50% of total cover: 82	20% of total cover: 33		
Woody Vine Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	95	x 4 =	380
UPL species	70	x 5 =	350
Column Totals:	165 (A)		730 (B)

Prevalence Index = B/A = 4.42

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata

Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks: (if observed, list morphological adaptions below).

SOIL

Sampling Point: T2DP2/WDP-5

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/1	90	7.5YR 6/8	10	C	M	silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: REDI Arkansas City/County: Homan Township, Texarkana, Miller Count Sampling Date: 03/02/2021
Applicant/Owner: AR-TX REDI State: Arkansas Sampling Point: UDP-5
Investigator(s): Roger Willis Section, Township, Range:
Landform (hillslope, terrace, etc): pasture Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR or MLRA): LRR P Lat: 33.532302 Long: -93.89216 Datum: WGS 1984
Soil Map Unit Name: Bossier clay, 0 to 1 percent slopes NWI classification: Non-wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X			

Remarks:
High precipitation in preceding weeks.

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 Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ 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)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____		
Water Table Present?	Yes ____	No X	Depth (inches): ____		
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____	**Wetland Hydrology Present?**	Yes ____ No X

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

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants. Sampling Point: UDP-5

Tree Stratum (Plot size: r=30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		
Sapling/Shrub Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 1 square meter)			
1. *Cynodon dactylon* / Bermuda grass	100	Yes	FACU
2. *Medicago minima* / Small bur clover, Burclover	40	Yes	UPL
3. *Ranunculus fascicularis* / Early buttercup	35	No	FAC
4. *Festuca versuta* / Texas fescue	10	No	UPL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	185	= Total Cover	
50% of total cover: 92	20% of total cover: 37		
Woody Vine Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	35	x 3 =	105	
FACU species	100	x 4 =	400	
UPL species	50	x 5 =	250	
Column Totals:	185	(A)	755	(B)

Prevalence Index = B/A = 4.08

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks (if observed, list morphological adaptions below).

SOIL

Sampling Point: UDP-5

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	7.5YR 4/3	100					sandy clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: REDI Arkansas City/County: Homan Township, Texarkana, Miller Count Sampling Date: 03/03/2021
Applicant/Owner: AR-TX REDI State: Arkansas Sampling Point: T3DP1
Investigator(s): Roger Willis Section, Township, Range:
Landform (hillslope, terrace, etc): pasture Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR or MLRA): LRR P Lat: 33.540763 Long: -93.889044 Datum: WGS 1984
Soil Map Unit Name: Rilla silt loam, 0 to 1 percent slopes NWI classification: Non-wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X			

Remarks:
High precipitation in preceding weeks

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 Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ 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)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____		
Water Table Present?	Yes ____	No X	Depth (inches): ____		
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____	**Wetland Hydrology Present?**	Yes ____ No X

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

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants. Sampling Point: T3DP1

Tree Stratum (Plot size: r=30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		
Sapling/Shrub Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 1 square meter)			
1. *Cynodon dactylon* / Bermuda grass	100	Yes	FACU
2. *Festuca versuta* / Texas fescue	30	No	UPL
3. *Ranunculus fascicularis* / Early buttercup	25	No	FAC
4. *Medicago minima* / Small bur clover, Burclover	10	No	UPL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	165	= Total Cover	
50% of total cover: 82	20% of total cover: 33		
Woody Vine Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	25	x 3 =	75	
FACU species	100	x 4 =	400	
UPL species	40	x 5 =	200	
Column Totals:	165	(A)	675	(B)

Prevalence Index = B/A = 4.09

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks (if observed, list morphological adaptions below).

SOIL

Sampling Point: T3DP1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	7.5YR 4/4	100					sandy clay loar	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: REDI Arkansas City/County: Homan Township, Texarkana, Miller Count Sampling Date: 03/03/2021
Applicant/Owner: AR-TX REDI State: Arkansas Sampling Point: T4DP1
Investigator(s): Roger Willis Section, Township, Range:
Landform (hillslope, terrace, etc): pasture Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR or MLRA): LRR P Lat: 33.543258 Long: -93.883194 Datum: WGS 1984
Soil Map Unit Name: Rilla silt loam, 0 to 1 percent slopes NWI classification: Non-wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X			
Hydric Soil Present?	Yes ____	No X	**Is the Sampled Area**		
Wetland Hydrology Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X

Remarks:
High precipitation in preceding weeks

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 Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ 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)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____		
Water Table Present?	Yes ____	No X	Depth (inches): ____		
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____	**Wetland Hydrology Present?**	Yes ____ No X

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

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants. Sampling Point: T4DP1

Tree Stratum (Plot size: r=30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	

50% of total cover: 0 20% of total cover: 0

Sapling/Shrub Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	

50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot size: 1 square meter)			
1. *Cynodon dactylon* / Bermuda grass	100	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100	= Total Cover	

50% of total cover: 50 20% of total cover: 20

Woody Vine Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	100	x 4 =	400	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	400	(B)

Prevalence Index = B/A = 4.0

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks (if observed, list morphological adaptions below).

SOIL Sampling Point: T4DP1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	7.5YR 4/4	100					sandy clay loar	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: REDI Arkansas City/County: Homan Township, Texarkana, Miller Count Sampling Date: 03/03/2021
Applicant/Owner: AR-TX REDI State: Arkansas Sampling Point: T4DP2/WDP-6
Investigator(s): Roger Willis Section, Township, Range:
Landform (hillslope, terrace, etc): pasture Local relief (concave, convex, none): concave Slope (%): 1
Subregion (LRR or MLRA): LRR O Lat: 33.53589 Long: -93.878564 Datum: WGS 1984
Soil Map Unit Name: Bossier clay, 0 to 1 percent slopes NWI classification: Non-wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	No ____	
Hydric Soil Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
High precipitation in preceding weeks

HYDROLOGY

Wetland Hydrology Indicators:

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

- X 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)
- X Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- X Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ 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)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 3
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

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

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants. Sampling Point: T4DP2/WDP-6

Tree Stratum (Plot size: r=30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	

50% of total cover: 0 20% of total cover: 0

Sapling/Shrub Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	

50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot size: 1 square meter)			
1. *Ludwigia peploides* / Marsh purslane	80	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	80	= Total Cover	

50% of total cover: 40 20% of total cover: 16

Woody Vine Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = 1.0

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

Remarks (if observed, list morphological adaptions below).

SOIL

Sampling Point: T4DP2/WDP-6

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	7.5YR 4/2	80	7.5YR 6/8	20	C	M	silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: REDI Arkansas City/County: Homan Township, Texarkana, Miller Count Sampling Date: 10/20/2021
Applicant/Owner: AR-TX REDI State: Arkansas Sampling Point: T4DP2/WDP-6
Investigator(s): Roger Willis Section, Township, Range:
Landform (hillslope, terrace, etc): pasture Local relief (concave, convex, none): concave Slope (%): 1
Subregion (LRR or MLRA): LRR O Lat: 33.53589 Long: -93.878564 Datum: WGS 1984
Soil Map Unit Name: Bossier clay, 0 to 1 percent slopes NWI classification: Non-wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X			
Hydric Soil Present?	Yes X	No ____	**Is the Sampled Area**		
Wetland Hydrology Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X

Remarks:

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 Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ 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)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____		
Water Table Present?	Yes ____	No X	Depth (inches): ____		
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____	**Wetland Hydrology Present?**	Yes ____ No X

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

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants.

Sampling Point: T4DP2/WDP-6

Tree Stratum (Plot size: r=30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		
Sapling/Shrub Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 1 square meter)			
1. *Cynodon dactylon* / Bermuda grass	40	Yes	FACU
2. *Cardiospermum halicacabum* / Balloon vine	35	Yes	FAC
3. *Medicago minima* / Small bur clover, Burclover	20	No	UPL
4. *Festuca versuta* / Texas fescue	20	No	UPL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	115	= Total Cover	
50% of total cover: 57	20% of total cover: 23		
Woody Vine Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	35	x 3 =	105
FACU species	40	x 4 =	160
UPL species	40	x 5 =	200
Column Totals:	115 (A)		465 (B)

Prevalence Index = B/A = 4.04

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata

Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks: (if observed, list morphological adaptions below).

SOIL

Sampling Point: T4DP2/WDP-6

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	7.5YR 4/2	80	7.5YR 6/8	20	C	M	silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: REDI Arkansas City/County: Homan Township, Texarkana, Miller Count Sampling Date: 03/03/2021
Applicant/Owner: AR-TX REDI State: Arkansas Sampling Point: UDP-6
Investigator(s): Roger Willis Section, Township, Range:
Landform (hillslope, terrace, etc): pasture Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR or MLRA): LRR O Lat: 33.535872 Long: -93.878508 Datum: WGS 1984
Soil Map Unit Name: Bossier clay, 0 to 1 percent slopes NWI classification: Non-wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X			
Hydric Soil Present?	Yes X	No ____	**Is the Sampled Area**		
Wetland Hydrology Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X

Remarks:
High precipitation in preceding weeks

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 Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ 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)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches):	

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants. Sampling Point: UDP-6

Tree Stratum (Plot size: r=30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		
Sapling/Shrub Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 1 square meter)			
1. *Cynodon dactylon* / Bermuda grass	100	Yes	FACU
2. *Medicago minima* / Small bur clover, Burclover	25	No	UPL
3. *Festuca versuta* / Texas fescue	20	No	UPL
4. *Physalis heterophylla* / Clammy groundcherry	5	No	UPL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	150	= Total Cover	
50% of total cover: 75	20% of total cover: 30		
Woody Vine Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	100	x 4 =	400	
UPL species	50	x 5 =	250	
Column Totals:	150	(A)	650	(B)

Prevalence Index = B/A = 4.33

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks (if observed, list morphological adaptions below).

SOIL

Sampling Point: UDP-6

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	7.5YR 3/2	90	7.5YR 6/8	10	C	M,PL	silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: REDI Arkansas City/County: Homan Township, Texarkana, Miller Count Sampling Date: 03/03/2021
Applicant/Owner: AR-TX REDI State: Arkansas Sampling Point: T5DP1
Investigator(s): Roger Willis Section, Township, Range:
Landform (hillslope, terrace, etc): pasture Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR or MLRA): LRR P Lat: 33.545535 Long: -93.87719 Datum: WGS 1984
Soil Map Unit Name: Rilla silt loam, 0 to 1 percent slopes NWI classification: Non-wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X
Hydric Soil Present? Yes ____ No X
Wetland Hydrology Present? Yes X No ____

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks:
High precipitation in preceding weeks

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ 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)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present? Yes X No ____ Depth (inches): 2
Water Table Present? Yes ____ No X Depth (inches): ____
Saturation Present? Yes ____ No X Depth (inches): ____
(includes capillary fringe)

Wetland Hydrology Present? Yes X No ____

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

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants. Sampling Point: T5DP1

Tree Stratum (Plot size: r=30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		
Sapling/Shrub Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 1 square meter)			
1. *Cynodon dactylon* / Bermuda grass	85	Yes	FACU
2. *Festuca versuta* / Texas fescue	50	Yes	UPL
3. *Medicago minima* / Small bur clover, Burclover	15	No	UPL
4. *Rumex crispus* / Curly dock	5	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	155	= Total Cover	
50% of total cover: 77	20% of total cover: 31		
Woody Vine Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	5	x 3 =	15	
FACU species	85	x 4 =	340	
UPL species	65	x 5 =	325	
Column Totals:	155	(A)	680	(B)

Prevalence Index = B/A = 4.39

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks (if observed, list morphological adaptions below).

SOIL

Sampling Point: T5DP1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	7.5YR 4/4	100					sandy clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: REDI Arkansas City/County: Homan Township, Texarkana, Miller Count Sampling Date: 03/03/2021
Applicant/Owner: AR-TX REDI State: Arkansas Sampling Point: WDP-7
Investigator(s): Roger Willis Section, Township, Range:
Landform (hillslope, terrace, etc): pond Local relief (concave, convex, none): concave Slope (%): 0
Subregion (LRR or MLRA): LRR P Lat: 33.548507 Long: -93.874024 Datum: WGS 1984
Soil Map Unit Name: Water NWI classification: PUBHx
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	No ____	
Hydric Soil Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
High precipitation in preceding weeks

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X Inundation Visible on Aerial Imagery (B7)
- X Water-Stained Leaves (B9)
- X Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ 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)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 6
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

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

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants.

Sampling Point: WDP-7

Tree Stratum (Plot size: r=30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus crassifolia* / Cedar elm	20	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	20	= Total Cover	
50% of total cover: 10		20% of total cover:	4

Sapling/Shrub Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0		20% of total cover:	0

Herb Stratum (Plot size: 1 square meter)			
1. *Ludwigia peploides* / Marsh purslane	20	Yes	OBL
2. *Polygonum lapathifolium* / Curlytop knotweed	15	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	35	= Total Cover	
50% of total cover: 17		20% of total cover:	7

Woody Vine Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
50% of total cover: 0		20% of total cover:	0

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	15	x 2 =	30
FAC species	20	x 3 =	60
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	55 (A)		110 (B)

Prevalence Index = B/A = 2.0

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

Remarks (if observed, list morphological adaptions below).

SOIL

Sampling Point: WDP-7

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	7.5YR 6/1	80	10YR 4/6	20	C	M	silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: REDI Arkansas City/County: Homan Township, Texarkana, Miller Count Sampling Date: 03/03/2021
Applicant/Owner: AR-TX REDI State: Arkansas Sampling Point: UDP-7
Investigator(s): Roger Willis Section, Township, Range:
Landform (hillslope, terrace, etc): pasture Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR or MLRA): LRR P Lat: 33.547968 Long: -93.873814 Datum: WGS 1984
Soil Map Unit Name: Rilla silt loam, 0 to 1 percent slopes NWI classification: Non-wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X			
Hydric Soil Present?	Yes ____	No X	**Is the Sampled Area**		
Wetland Hydrology Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X

Remarks:
High precipitation in preceding weeks

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 Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ 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)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____		
Water Table Present?	Yes ____	No X	Depth (inches): ____		
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____	**Wetland Hydrology Present?**	Yes ____ No X

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

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants. Sampling Point: UDP-7

Tree Stratum (Plot size: r=30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		
Sapling/Shrub Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 1 square meter)			
1. *Cynodon dactylon* / Bermuda grass	85	Yes	FACU
2. *Festuca versuta* / Texas fescue	35	Yes	UPL
3. *Medicago minima* / Small bur clover, Burclover	20	No	UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	140	= Total Cover	
50% of total cover: 70	20% of total cover: 28		
Woody Vine Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	85	x 4 =	340
UPL species	55	x 5 =	275
Column Totals:	140 (A)		615 (B)

Prevalence Index = B/A = 4.39

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks (if observed, list morphological adaptions below).

SOIL

Sampling Point: UDP-7

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	7.5YR 4/4	100					sandy clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: REDI Arkansas City/County: Homan Township, Texarkana, Miller Count Sampling Date: 03/03/2021
Applicant/Owner: AR-TX REDI State: Arkansas Sampling Point: T6DP1
Investigator(s): Roger Willis Section, Township, Range:
Landform (hillslope, terrace, etc): pasture Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR or MLRA): LRR P Lat: 33.547146 Long: -93.870563 Datum: WGS 1984
Soil Map Unit Name: Bossier clay, 0 to 1 percent slopes NWI classification: Non-wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X
Hydric Soil Present? Yes ____ No X
Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks:
High precipitation in preceding weeks

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 Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ 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)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): ____
Water Table Present? Yes ____ No X Depth (inches): ____
Saturation Present? Yes ____ No X Depth (inches): ____
(includes capillary fringe)

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants. Sampling Point: T6DP1

Tree Stratum (Plot size: r=30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		
Sapling/Shrub Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 1 square meter)			
1. *Cynodon dactylon* / Bermuda grass	100	Yes	FACU
2. *Festuca versuta* / Texas fescue	80	Yes	UPL
3. *Medicago minima* / Small bur clover, Burclover	10	No	UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	190	= Total Cover	
50% of total cover: 95	20% of total cover: 38		
Woody Vine Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	100	x 4 =	400	
UPL species	90	x 5 =	450	
Column Totals:	190	(A)	850	(B)

Prevalence Index = B/A = 4.47

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks (if observed, list morphological adaptions below).

SOIL Sampling Point: T6DP1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	7.5YR 4/4	100					sandy clay loar	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ___ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: REDI Arkansas City/County: Homan Township, Texarkana, Miller Count Sampling Date: 03/03/2021
Applicant/Owner: AR-TX REDI State: Arkansas Sampling Point: T7DP1/WDP-8
Investigator(s): Roger Willis Section, Township, Range:
Landform (hillslope, terrace, etc): pasture Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR or MLRA): LRR P Lat: 33.550055 Long: -93.864193 Datum: WGS 1984
Soil Map Unit Name: Billyhaw clay, 0 to 1 percent slopes, rarely flooded NWI classification: Non-wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X			
Hydric Soil Present?	Yes ____	No X	**Is the Sampled Area**		
Wetland Hydrology Present?	Yes X	No ____	**within a Wetland?**	Yes ____	No X

Remarks:
High precipitation in preceding weeks

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ 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)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	2	
Water Table Present?	Yes ____	No X	Depth (inches):	____	
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches):	____	**Wetland Hydrology Present?** Yes X No ____

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

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants. Sampling Point: T7DP1/WDP-8

Tree Stratum (Plot size: r=30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	

50% of total cover: 0 20% of total cover: 0

Sapling/Shrub Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	

50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot size: 1 square meter)			
1. *Cynodon dactylon* / Bermuda grass	60	Yes	FACU
2. *Festuca versuta* / Texas fescue	35	Yes	UPL
3. *Paspalum bifidum* / Pitchfork crown grass	25	No	FACW
4. *Juncus anthelatus* / Poverty rush, Kentucky or poverty rush	20	No	FACW
5. *Rumex crispus* / Curly dock	10	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	150	= Total Cover	

50% of total cover: 75 20% of total cover: 30

Woody Vine Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	45	x 2 =	90
FAC species	10	x 3 =	30
FACU species	60	x 4 =	240
UPL species	35	x 5 =	175
Column Totals:	150 (A)		535 (B)

Prevalence Index = B/A = 3.57

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks (if observed, list morphological adaptions below).

SOIL

Sampling Point: T7DP1/WDP-8

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 4/3	100					clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: REDI Arkansas City/County: Homan Township, Texarkana, Miller Count Sampling Date: 03/03/2021
Applicant/Owner: AR-TX REDI State: Arkansas Sampling Point: UDP-8
Investigator(s): Roger Willis Section, Township, Range:
Landform (hillslope, terrace, etc): pasture Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR or MLRA): LRR P Lat: 33.55023 Long: -93.864959 Datum: WGS 1984
Soil Map Unit Name: Rilla silt loam, 0 to 1 percent slopes NWI classification: Non-wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X			

Remarks:
High precipitation in preceding weeks

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 Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ 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)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes ____	No X	Depth (inches):	____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches):	____

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants. Sampling Point: UDP-8

Tree Stratum (Plot size: r=30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		
Sapling/Shrub Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 1 square meter)			
1. *Cynodon dactylon* / Bermuda grass	90	Yes	FACU
2. *Festuca versuta* / Texas fescue	40	Yes	UPL
3. *Medicago minima* / Small bur clover, Burclover	20	No	UPL
4. *Rumex crispus* / Curly dock	5	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	155	= Total Cover	
50% of total cover: 77	20% of total cover: 31		
Woody Vine Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	90	x 4 =	360
UPL species	60	x 5 =	300
Column Totals:	155 (A)		675 (B)

Prevalence Index = B/A = 4.35

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks (if observed, list morphological adaptions below).

SOIL

Sampling Point: UDP-8

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	7.5YR 4/4	80	7.5YR 6/8	20	C	M	clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: REDI Arkansas City/County: Homan Township, Texarkana, Miller Count Sampling Date: 03/03/2021
Applicant/Owner: AR-TX REDI State: Arkansas Sampling Point: WDP-9
Investigator(s): Roger Willis Section, Township, Range:
Landform (hillslope, terrace, etc): pond Local relief (concave, convex, none): concave Slope (%): 0
Subregion (LRR or MLRA): LRR P Lat: 33.548709 Long: -93.86312 Datum: WGS 1984
Soil Map Unit Name: Billyhaw clay, 0 to 1 percent slopes, rarely flooded NWI classification: Non-wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	No ____	
Hydric Soil Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
High precipitation in preceding weeks

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- X Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ 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)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present? Yes X No ____ Depth (inches): 5
Water Table Present? Yes ____ No X Depth (inches): ____
Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

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

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants.

Sampling Point: WDP-9

Tree Stratum (Plot size: r=30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus palustris* / Pin oak	20	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	20	= Total Cover	
50% of total cover: 10		20% of total cover:	4

Sapling/Shrub Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0		20% of total cover:	0

Herb Stratum (Plot size:)			
1. *Polygonum hydropiperoides* / Mild water pepper	100	Yes	OBL
2. *Ludwigia peploides* / Marsh purslane	25	No	OBL
3. *Lemna minor* / Smaller duckweed	20	No	OBL
4. *Juncus anthelatus* / Poverty rush, Kentucky or poverty rush	15	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	160	= Total Cover	
50% of total cover: 80		20% of total cover:	32

Woody Vine Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
50% of total cover: 0		20% of total cover:	0

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	145	x 1 =	145
FACW species	35	x 2 =	70
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	180 (A)		215 (B)

Prevalence Index = B/A = 1.19

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

Remarks (if observed, list morphological adaptions below).

SOIL

Sampling Point: WDP-9

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	7.5YR 5/1	85	10YR 6/8	15	C	M	silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: REDI Arkansas City/County: Homan Township, Texarkana, Miller Count Sampling Date: 03/03/2021
Applicant/Owner: AR-TX REDI State: Arkansas Sampling Point: UDP-9
Investigator(s): Roger Willis Section, Township, Range:
Landform (hillslope, terrace, etc): berm Local relief (concave, convex, none): convex Slope (%): 2
Subregion (LRR or MLRA): LRR P Lat: 33.54871 Long: -93.863373 Datum: WGS 1984
Soil Map Unit Name: Billyhaw clay, 0 to 1 percent slopes, rarely flooded NWI classification: Non-wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X			

Remarks:
High precipitation in preceding weeks

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 Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ 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)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches):	

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants. Sampling Point: UDP-9

Tree Stratum (Plot size: r=30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		

Sapling/Shrub Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		

Herb Stratum (Plot size: 1 square meter)			
1. *Cynodon dactylon* / Bermuda grass	80	Yes	FACU
2. *Festuca versuta* / Texas fescue	35	Yes	UPL
3. *Physalis heterophylla* / Clammy groundcherry	10	No	UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	125	= Total Cover	
50% of total cover: 62	20% of total cover: 25		

Woody Vine Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	80	x 4 =	320
UPL species	45	x 5 =	225
Column Totals:	125 (A)		545 (B)

Prevalence Index = B/A = 4.36

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks (if observed, list morphological adaptions below).

SOIL

Sampling Point: UDP-9

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 4/4	100					clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: REDI Arkansas City/County: Homan Township, Texarkana, Miller Count Sampling Date: 03/04/2021
Applicant/Owner: AR-TX REDI State: Arkansas Sampling Point: WDP-10
Investigator(s): Roger Willis Section, Township, Range:
Landform (hillslope, terrace, etc): pond Local relief (concave, convex, none): concave Slope (%): 0
Subregion (LRR or MLRA): LRR O Lat: 33.542276 Long: -93.87265 Datum: WGS 1984
Soil Map Unit Name: Bossier clay, 0 to 1 percent slopes NWI classification: Non-wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	No ____	
Hydric Soil Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
High precipitation in preceding weeks

HYDROLOGY

Wetland Hydrology Indicators:

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

- X 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)
- X Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 4
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

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

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants. Sampling Point: WDP-10

Tree Stratum (Plot size: r=30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Celtis occidentalis* / Common hackberry	25	Yes	FACU
2. *Gleditsia triacanthos* / Honeylocust, Honey locust	15	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	40	= Total Cover	
50% of total cover: 20	20% of total cover: 8		

Sapling/Shrub Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		

Herb Stratum (Plot size: 1 square meter)			
1. *Ranunculus fascicularis* / Early buttercup	12	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	12	= Total Cover	
50% of total cover: 6	20% of total cover: 2		

Woody Vine Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	27	x 3 =	81
FACU species	25	x 4 =	100
UPL species	0	x 5 =	0
Column Totals:	52 (A)		181 (B)

Prevalence Index = B/A = 3.48

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

Remarks (if observed, list morphological adaptions below).

SOIL

Sampling Point: WDP-10

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 4/2	60	7.5YR 4/6	40	C	M	silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: REDI Arkansas City/County: Homan Township, Texarkana, Miller Count Sampling Date: 03/04/2021
Applicant/Owner: AR-TX REDI State: Arkansas Sampling Point: UDP-10
Investigator(s): Roger Willis Section, Township, Range:
Landform (hillslope, terrace, etc): pasture Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR or MLRA): LRR O Lat: 33.542242 Long: -93.872495 Datum: WGS 1984
Soil Map Unit Name: Bossier clay, 0 to 1 percent slopes NWI classification: Non-wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X			
Hydric Soil Present?	Yes X	No ____	**Is the Sampled Area**		
Wetland Hydrology Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X

Remarks:
High precipitation in preceding weeks

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 Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ 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)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____		
Water Table Present?	Yes ____	No X	Depth (inches): ____		
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____	**Wetland Hydrology Present?**	Yes ____ No X

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

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants. Sampling Point: UDP-10

Tree Stratum (Plot size: r=30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		
Sapling/Shrub Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 1 square meter)			
1. *Cynodon dactylon* / Bermuda grass	100	Yes	FACU
2. *Ranunculus fascicularis* / Early buttercup	25	No	FAC
3. *Medicago minima* / Small bur clover, Burclover	15	No	UPL
4. *Rumex crispus* / Curly dock	10	No	FAC
5. *Festuca versuta* / Texas fescue	10	No	UPL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	160	= Total Cover	
50% of total cover: 80	20% of total cover: 32		
Woody Vine Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	35	x 3 =	105	
FACU species	100	x 4 =	400	
UPL species	25	x 5 =	125	
Column Totals:	160	(A)	630	(B)

Prevalence Index = B/A = 3.94

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks (if observed, list morphological adaptions below).

SOIL

Sampling Point: UDP-10

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	7.5YR 3/1	90	7.5YR 6/8	10	C	PL	sandy clay	
3-18	7.5YR 5/2	85	7.5YR 6/8	15	C	M,PL	sandy clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: REDI Arkansas City/County: Homan Township, Texarkana, Miller Count Sampling Date: 03/04/2021
Applicant/Owner: AR-TX REDI State: Arkansas Sampling Point: T8DP1/WDP-11
Investigator(s): Roger Willis Section, Township, Range:
Landform (hillslope, terrace, etc): forest Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR or MLRA): LRR O Lat: 33.547225 Long: -93.856825 Datum: WGS 1984
Soil Map Unit Name: Bossier clay, 0 to 1 percent slopes NWI classification: Non-wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	No ____	
Hydric Soil Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
High precipitation in preceding weeks

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- X Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ 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)
- X Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 4
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

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

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants.

Sampling Point: T8DP1/WDP-11

Tree Stratum (Plot size: r=30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Nyssa sylvatica* / Blackgum	30	Yes	FAC
2. *Carpinus caroliniana* / American hornbeam	15	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	45	= Total Cover	
50% of total cover: 22	20% of total cover: 9		

Sapling/Shrub Stratum (Plot size: r=20')			
1. *Carpinus caroliniana* / American hornbeam	45	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	45	= Total Cover	
50% of total cover: 22	20% of total cover: 9		

Herb Stratum (Plot size: 1 square meter)			
1. *Juncus anthelatus* / Poverty rush, Kentucky or poverty rush	50	Yes	FACW
2. *Cyperus esculentus* / Nut grass	40	Yes	FAC
3. *Typha domingensis* / Cattail, Southern cattail	15	No	OBL
4. *Rumex crispus* / Curly dock	10	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	115	= Total Cover	
50% of total cover: 57	20% of total cover: 23		

Woody Vine Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	50	x 2 =	100
FAC species	140	x 3 =	420
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	205 (A)		535 (B)

Prevalence Index = B/A = 2.61

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

Remarks (if observed, list morphological adaptions below).

SOIL

Sampling Point: T8DP1/WDP-11

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/2	85	10YR 6/8	15	C	M	clay	
3-18	7.5YR 4/4	80	10YR 6/6	20	C	M	clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: REDI Arkansas City/County: Homan Township, Texarkana, Miller Count Sampling Date: 10/20/2021
Applicant/Owner: AR-TX REDI State: Arkansas Sampling Point: T8DP1/WDP-11
Investigator(s): Roger Willis Section, Township, Range:
Landform (hillslope, terrace, etc): forest Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR or MLRA): LRR O Lat: 33.547225 Long: -93.856825 Datum: WGS 1984
Soil Map Unit Name: Bossier clay, 0 to 1 percent slopes NWI classification: Non-wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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	X	No		
Hydric Soil Present?	Yes	X	No	**Is the Sampled Area**	
Wetland Hydrology Present?	Yes		No	**within a Wetland?**	Yes ____ No X

Remarks:

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 Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ 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)
- X Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes	____	No X	Depth (inches):	____
Water Table Present?	Yes	____	No X	Depth (inches):	____
Saturation Present? (includes capillary fringe)	Yes	____	No X	Depth (inches):	____

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants.

Sampling Point: T8DP1/WDP-11

Tree Stratum (Plot size: r=30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Nyssa sylvatica* / Blackgum	30	Yes	FAC
2. *Carpinus caroliniana* / American hornbeam	15	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	45	= Total Cover	
50% of total cover: 22	20% of total cover: 9		
Sapling/Shrub Stratum (Plot size: r=20')			
1. *Carpinus caroliniana* / American hornbeam	35	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	35	= Total Cover	
50% of total cover: 17	20% of total cover: 7		
Herb Stratum (Plot size: 1 square meter)			
1. *Cyperus esculentus* / Nut grass	40	Yes	FAC
2. *Juncus anthelatus* / Poverty rush, Kentucky or poverty rush	35	Yes	FACW
3. *Cynodon dactylon* / Bermuda grass	25	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100	= Total Cover	
50% of total cover: 50	20% of total cover: 20		
Woody Vine Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83.3 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	35	x 2 =	70
FAC species	120	x 3 =	360
FACU species	25	x 4 =	100
UPL species	0	x 5 =	0
Column Totals:	180 (A)		530 (B)

Prevalence Index = B/A = 2.94

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata

Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (if observed, list morphological adaptions below).

SOIL

Sampling Point: T8DP1/WDP-11

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/2	85	10YR 6/8	15	C	M	clay	
3-18	7.5YR 4/4	80	10YR 6/6	20	C	M	clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: REDI Arkansas City/County: Homan Township, Texarkana, Miller Count Sampling Date: 03/04/2021
Applicant/Owner: AR-TX REDI State: Arkansas Sampling Point: UDP-11
Investigator(s): Roger Willis Section, Township, Range:
Landform (hillslope, terrace, etc): road Local relief (concave, convex, none): convex Slope (%): 1
Subregion (LRR or MLRA): LRR O Lat: 33.547446 Long: -93.856722 Datum: WGS 1984
Soil Map Unit Name: Bossier clay, 0 to 1 percent slopes NWI classification: Non-wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X			

Remarks:
High precipitation in preceding weeks

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 Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ 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)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes ____	No X	Depth (inches):	____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches):	____

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants.

Sampling Point: UDP-11

Tree Stratum (Plot size: r=30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Carpinus caroliniana* / American hornbeam	15	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	15	= Total Cover	
50% of total cover: 7	20% of total cover:	3	

Sapling/Shrub Stratum (Plot size: r=20')			
1. *Carpinus caroliniana* / American hornbeam	55	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	55	= Total Cover	
50% of total cover: 27	20% of total cover:	11	

Herb Stratum (Plot size: 1 square meter)			
1. *Medicago minima* / Small bur clover, Burclover	50	Yes	UPL
2. *Cynodon dactylon* / Bermuda grass	25	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	75	= Total Cover	
50% of total cover: 37	20% of total cover:	15	

Woody Vine Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover:	0	

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	70	x 3 =	210
FACU species	25	x 4 =	100
UPL species	50	x 5 =	250
Column Totals:	145 (A)		560 (B)

Prevalence Index = B/A = 3.86

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks (if observed, list morphological adaptions below).

SOIL

Sampling Point: UDP-11

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	7.5YR 4/4	90	10YR 6/8	10	C	M	clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: REDI Arkansas City/County: Homan Township, Texarkana, Miller Count Sampling Date: 03/04/2021
Applicant/Owner: AR-TX REDI State: Arkansas Sampling Point: T9DP1/WDP-12
Investigator(s): Roger Willis Section, Township, Range:
Landform (hillslope, terrace, etc): forest floor Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR or MLRA): LRR O Lat: 33.547643 Long: -93.85102 Datum: WGS 1984
Soil Map Unit Name: Bossier clay, 0 to 1 percent slopes NWI classification: Non-wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	No ____	
Hydric Soil Present?	Yes X	No ____	**Is the Sampled Area**
Wetland Hydrology Present?	Yes X	No ____	**within a Wetland?** Yes X No ____

Remarks:
High precipitation in preceding weeks

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- X Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ 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)
- X Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 2
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

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

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants.

Sampling Point: T9DP1/WDP-12

Tree Stratum (Plot size: r=30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus rubra* / Slippery elm	20	Yes	FAC
2. *Carpinus caroliniana* / American hornbeam	15	Yes	FAC
3. *Fagus grandifolia* / American beech	10	Yes	FACU
4.			
5.			
6.			
7.			
8.			
	45	= Total Cover	
50% of total cover: 22	20% of total cover: 9		
Sapling/Shrub Stratum (Plot size: r=20')			
1. *Carpinus caroliniana* / American hornbeam	15	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	15	= Total Cover	
50% of total cover: 7	20% of total cover: 3		
Herb Stratum (Plot size: 1 square meter)			
1. *Cyperus esculentus* / Nut grass	40	Yes	FAC
2. *Juncus anthelatus* / Poverty rush, Kentucky or poverty rush	30	Yes	FACW
3. *Ranunculus fascicularis* / Early buttercup	25	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	95	= Total Cover	
50% of total cover: 47	20% of total cover: 19		
Woody Vine Stratum (Plot size: r=20')			
1. *Wisteria frutescens* / American wisteria	15	Yes	FACW
2.			
3.			
4.			
5.			
	15	= Total Cover	
50% of total cover: 7	20% of total cover: 3		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 87.5 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	45	x 2 =	90
FAC species	115	x 3 =	345
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	170 (A)		475 (B)

Prevalence Index = B/A = 2.79

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

Remarks (if observed, list morphological adaptions below).

SOIL

Sampling Point: T9DP1/WDP-12

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	7.5YR 3/1	100					clay	
4-18	7.5YR 4/2	80	10YR 6/8	20	C	M	clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: REDI Arkansas City/County: Homan Township, Texarkana, Miller Count Sampling Date: 10/20/2021
Applicant/Owner: AR-TX REDI State: Arkansas Sampling Point: T9DP1/WDP-12
Investigator(s): Roger Willis Section, Township, Range:
Landform (hillslope, terrace, etc): forest floor Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR or MLRA): LRR O Lat: 33.547643 Long: -93.85102 Datum: WGS 1984
Soil Map Unit Name: Bossier clay, 0 to 1 percent slopes NWI classification: Non-wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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	X	No		
Hydric Soil Present?	Yes	X	No	**Is the Sampled Area**	
Wetland Hydrology Present?	Yes		No	**within a Wetland?**	Yes ____ No X

Remarks:

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 Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ 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)
- X Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes	____	No X	Depth (inches):	
Water Table Present?	Yes	____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes	____	No X	Depth (inches):	

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants.

Sampling Point: T9DP1/WDP-12

Tree Stratum (Plot size: r=30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus rubra* / Slippery elm	20	Yes	FAC
2. *Carpinus caroliniana* / American hornbeam	15	Yes	FAC
3. *Fagus grandifolia* / American beech	10	Yes	FACU
4.			
5.			
6.			
7.			
8.			
	45	= Total Cover	
50% of total cover: 22	20% of total cover: 9		
Sapling/Shrub Stratum (Plot size: r=20')			
1. *Carpinus caroliniana* / American hornbeam	15	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	15	= Total Cover	
50% of total cover: 7	20% of total cover: 3		
Herb Stratum (Plot size: 1 square meter)			
1. *Juncus anthelatus* / Poverty rush, Kentucky or poverty rush	30	Yes	FACW
2. *Cyperus esculentus* / Nut grass	25	Yes	FAC
3. *Cynodon dactylon* / Bermuda grass	20	No	FACU
4. *Toxicodendron radicans* / Eastern poison ivy	15	No	FAC
5. *Cardiospermum halicacabum* / Balloon vine	15	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	105	= Total Cover	
50% of total cover: 52	20% of total cover: 21		
Woody Vine Stratum (Plot size: r=20')			
1. *Wisteria frutescens* / American wisteria	15	Yes	FACW
2.			
3.			
4.			
5.			
	15	= Total Cover	
50% of total cover: 7	20% of total cover: 3		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 85.7 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	45	x 2 =	90
FAC species	105	x 3 =	315
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals:	180 (A)		525 (B)

Prevalence Index = B/A = 2.92

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata

Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (if observed, list morphological adaptions below).

SOIL

Sampling Point: T9DP1/WDP-12

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	7.5YR 3/1	100					clay	
4-18	7.5YR 4/2	80	10YR 6/8	20	C	M	clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: REDI Arkansas City/County: Homan Township, Texarkana, Miller Count Sampling Date: 03/04/2021
Applicant/Owner: AR-TX REDI State: Arkansas Sampling Point: UDP-12
Investigator(s): Roger Willis Section, Township, Range:
Landform (hillslope, terrace, etc): road Local relief (concave, convex, none): convex Slope (%): 1
Subregion (LRR or MLRA): LRR O Lat: 33.547541 Long: -93.850803 Datum: WGS 1984
Soil Map Unit Name: Bossier clay, 0 to 1 percent slopes NWI classification: Non-wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X			

Remarks:
High precipitation in preceding weeks

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 Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ 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)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches):	

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants. Sampling Point: UDP-12

Tree Stratum (Plot size: r=30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	

50% of total cover: 0 20% of total cover: 0

Sapling/Shrub Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	

50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot size: 1 square meter)			
1. *Cynodon dactylon* / Bermuda grass	30	Yes	FACU
2. *Andropogon glomeratus* / Bushy bluestem	15	Yes	FACW
3. *Medicago minima* / Small bur clover, Burclover	10	No	UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	55	= Total Cover	

50% of total cover: 27 20% of total cover: 11

Woody Vine Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	0	x 3 =	0
FACU species	30	x 4 =	120
UPL species	10	x 5 =	50
Column Totals:	55 (A)		200 (B)

Prevalence Index = B/A = 3.64

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks (if observed, list morphological adaptions below).

SOIL

Sampling Point: UDP-12

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	7.5YR 4/3	80	10YR 6/6	20	C	M	sandy clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: REDI Arkansas City/County: Homan Township, Texarkana, Miller Count Sampling Date: 10/20/2021
Applicant/Owner: AR-TX REDI State: Arkansas Sampling Point: WDP-A
Investigator(s): Roger Willis Section, Township, Range:
Landform (hillslope, terrace, etc): depression Local relief (concave, convex, none): concave Slope (%): 0
Subregion (LRR or MLRA): LRR O Lat: 33.547608 Long: -93.853648 Datum: WGS 1984
Soil Map Unit Name: Bossier clay, 0 to 1 percent slopes NWI classification: PFO1A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	No ____	
Hydric Soil Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- X Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- X Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- X Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 3

Wetland Hydrology Present? Yes X No ____

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

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants. Sampling Point: WDP-A

Tree Stratum (Plot size: r=30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus nigra* / Water oak	55	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	55	= Total Cover	
50% of total cover: 27	20% of total cover: 11		

Sapling/Shrub Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		

Herb Stratum (Plot size: 1 sq. meter)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		

Woody Vine Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	55	x 3 =	165
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	55 (A)		165 (B)

Prevalence Index = B/A = 3.0

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata

Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (if observed, list morphological adaptions below).
Floor covered in dead leaves

SOIL

Sampling Point: WDP-A

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	7.5YR 2.5/1	80	7.5YR 4/6	20	C	M	silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: REDI Arkansas City/County: Homan Township, Texarkana, Miller Count Sampling Date: 10/20/2021
Applicant/Owner: AR-TX REDI State: Arkansas Sampling Point: UDP-A
Investigator(s): Roger Willis Section, Township, Range:
Landform (hillslope, terrace, etc): field Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR or MLRA): LRR O Lat: 33.547382 Long: -93.852828 Datum: WGS 1984
Soil Map Unit Name: Bossier clay, 0 to 1 percent slopes NWI classification: Non-wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X			
Hydric Soil Present?	Yes X	No ____	**Is the Sampled Area**		
Wetland Hydrology Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X

Remarks:

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 Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ 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)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____		
Water Table Present?	Yes ____	No X	Depth (inches): ____		
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____	**Wetland Hydrology Present?**	Yes ____ No X

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

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants.

Sampling Point: UDP-A

Tree Stratum (Plot size: r=30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Carpinus caroliniana* / American hornbeam	20	Yes	FAC
2. *Fagus grandifolia* / American beech	10	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
	30	= Total Cover	
50% of total cover: 15		20% of total cover: 6	

Sapling/Shrub Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0		20% of total cover: 0	

Herb Stratum (Plot size: 1 sq. meter)			
1. *Cynodon dactylon* / Bermuda grass	45	Yes	FACU
2. *Cardiospermum halicacabum* / Balloon vine	25	Yes	FAC
3. *Solidago rugosa* / Wrinkle-leaf goldenrod	20	No	FAC
4. *Ambrosia trifida* / Giant ragweed	15	No	FAC
5. *Toxicodendron radicans* / Eastern poison ivy	15	No	FAC
6. *Medicago minima* / Small bur clover, Burclover	10	No	UPL
7.			
8.			
9.			
10.			
11.			
12.			
	130	= Total Cover	
50% of total cover: 65		20% of total cover: 26	

Woody Vine Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
50% of total cover: 0		20% of total cover: 0	

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	95	x 3 =	285
FACU species	55	x 4 =	220
UPL species	10	x 5 =	50
Column Totals:	160 (A)		555 (B)

Prevalence Index = B/A = 3.47

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata

Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks: (if observed, list morphological adaptions below).

SOIL

Sampling Point: UDP-A

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	7.5YR 2.5/1	85	7.5YR 6/8	15	C	M	clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: REDI Arkansas City/County: Homan Township, Texarkana, Miller Count Sampling Date: 10/20/2021
Applicant/Owner: AR-TX REDI State: Arkansas Sampling Point: WDP-B
Investigator(s): Roger Willis Section, Township, Range:
Landform (hillslope, terrace, etc): depression Local relief (concave, convex, none): concave Slope (%): 0
Subregion (LRR or MLRA): LRR O Lat: 33.547358 Long: -93.850057 Datum: WGS 1984
Soil Map Unit Name: Bossier clay, 0 to 1 percent slopes NWI classification: Non-wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	No ____	
Hydric Soil Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	4

Wetland Hydrology Present? Yes X No ____

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

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants. Sampling Point: WDP-B

Tree Stratum (Plot size: r=30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		
Sapling/Shrub Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 1sq. meter)			
1. *Juncus torreyi* / Torrey's rush, Torrey's rush	65	Yes	FACW
2. *Polygonum aviculare* / Prostrate knotweed, Knotweed, Knotg	40	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	105	= Total Cover	
50% of total cover: 52	20% of total cover: 21		
Woody Vine Stratum (Plot size: r=20')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	65	x 2 =	130
FAC species	40	x 3 =	120
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	105 (A)		250 (B)

Prevalence Index = B/A = 2.38

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata

Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (if observed, list morphological adaptions below).

SOIL

Sampling Point: WDP-B

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	7.5YR 2.5/1	85	5YR 6/6	15	C	M	silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

Appendix V: USACE Approved Jurisdictional Determination Form

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Little Rock District

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State:Arkansas County/parish/borough: Miller County City: Homan Township, Texarkana
Center coordinates of site (lat/long in degree decimal format): Lat. 33.542119° **N**, Long. -93.877086° **W**.
Universal Transverse Mercator: 14
Name of nearest waterbody: Red River
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Red River
Name of watershed or Hydrologic Unit Code (HUC): Bois d'Arc Bayou (111402010202)

☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☐ Office (Desk) Determination. Date:
☐ Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** *"navigable waters of the U.S."* within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]

☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **are and are not** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☐ TNWs, including territorial seas
      ☐ Wetlands adjacent to TNWs
      ☒ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☐ Non-RPWs that flow directly or indirectly into TNWs
      ☒ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
      Non-wetland waters: linear feet: width (ft) and/or acres.
      Wetlands: 1.29 acres.

   c. **Limits (boundaries) of jurisdiction** based on: **1987 Delineation Manual**
      Elevation of established OHWM (if known): .

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   ☒ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
   Explain: **Several isolated wetlands were observed on the Project**.

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW
Identify TNW: .

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW
Summarize rationale supporting conclusion that wetland is "adjacent": .

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:
Watershed size: **Pick List**
Drainage area: **Pick List**
Average annual rainfall: inches
Average annual snowfall: inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☐ Tributary flows directly into TNW.
☒ Tributary flows through **3** tributaries before entering TNW.

Project waters are **5-10** river miles from TNW.
Project waters are **1 (or less)** river miles from RPW.
Project waters are **5-10** aerial (straight) miles from TNW.
Project waters are **1 (or less)** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW[5]: Wetland 2 flows into a network of unnamed drainage ditches and canals that lead to the Red River.

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.
[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

Tributary stream order, if known: .

(b) General Tributary Characteristics (check all that apply):

Tributary is: ☐ Natural
☒ Artificial (man-made). Explain: Manmade drainge and flood control ditches and canals.
☐ Manipulated (man-altered). Explain: .

Tributary properties with respect to top of bank (estimate):
Average width: 3-20 feet
Average depth: 1-2 feet
Average side slopes: **Vertical (1:1 or less).**

Primary tributary substrate composition (check all that apply):

☒ Silts	☒ Sands	☐ Concrete
☐ Cobbles	☐ Gravel	☐ Muck
☐ Bedrock	☐ Vegetation. Type/% cover:	
☐ Other. Explain: .		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Eroding due to livestock disturbance.
Presence of run/riffle/pool complexes. Explain: No.
Tributary geometry: **Relatively straight**
Tributary gradient (approximate average slope): 0-1 %

(c) Flow:
Tributary provides for: **Intermittent but not seasonal flow**
Estimate average number of flow events in review area/year: **20 (or greater)**
Describe flow regime: Wetland 2 (a clogged drainage ditch) flows after significant precipitation.
Other information on duration and volume: .

Surface flow is: **Discrete and confined.** Characteristics: .

Subsurface flow: **Unknown**. Explain findings: .
☐ Dye (or other) test performed: .

Tributary has (check all that apply):
☒ Bed and banks
☐ OHWM[6] (check all indicators that apply):

☒ clear, natural line impressed on the bank	☒ the presence of litter and debris
☒ changes in the character of soil	☒ destruction of terrestrial vegetation
☒ shelving	☐ the presence of wrack line
☒ vegetation matted down, bent, or absent	☐ sediment sorting
☐ leaf litter disturbed or washed away	☒ scour
☒ sediment deposition	☐ multiple observed or predicted flow events
☐ water staining	☒ abrupt change in plant community
☐ other (list):	

☐ Discontinuous OHWM.[7] Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

☐ High Tide Line indicated by:	☐ Mean High Water Mark indicated by:
☐ oil or scum line along shore objects	☐ survey to available datum;
☐ fine shell or debris deposits (foreshore)	☐ physical markings;
☐ physical markings/characteristics	☒ vegetation lines/changes in vegetation types.
☐ tidal gauges	
☐ other (list):	

(iii) Chemical Characteristics:
Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain: Water is turbid with fine particles and manure.
Identify specific pollutants, if known: .

[6]A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7]Ibid.

(iv) Biological Characteristics. Channel supports (check all that apply):

- ☐ Riparian corridor. Characteristics (type, average width): .
- ☒ Wetland fringe. Characteristics: Dominated by early buttcup, dock, and sedges.
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: .

Surface flow is**: Pick List**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

- ☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

- ☐ Directly abutting
- ☐ Not directly abutting
  - ☐ Discrete wetland hydrologic connection. Explain: .
  - ☐ Ecological connection. Explain: .
  - ☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List.**

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

(iii) Biological Characteristics. Wetland supports (check all that apply):

- ☐ Riparian buffer. Characteristics (type, average width): .
- ☐ Vegetation type/percent cover. Explain: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

Summarize overall biological, chemical and physical functions being performed: .

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☐ TNWs: linear feet width (ft), Or, acres.
   - ☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

3. Non-RPWs[8] that flow directly or indirectly into TNWs.
☒ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):
☒ Tributary waters: **2,415** linear feet **3-20** width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: **.**

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.
☒ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
☒ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: **Clogged drainage ditch.**

☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: **1.29** acres.

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.
☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.
☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. Impoundments of jurisdictional waters.[9]
As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
☐ Demonstrate that impoundment was created from "waters of the U.S.," or
☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]
☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☐ which are or could be used for industrial purposes by industries in interstate commerce.
☐ Interstate isolated waters. Explain: .
☐ Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

---

[8]See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
[10] Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.*

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .
☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):
☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☒ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
☒ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
☒ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:**Delineated wetlands are isolated from other features by berms and acres of pasture/forest.**
☐ Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☒ Lakes/ponds: 4.31 acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☒ Wetlands: 1.64 acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
☐ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☐ Corps navigable waters' study: .
☐ U.S. Geological Survey Hydrologic Atlas: .
☐ USGS NHD data.
☐ USGS 8 and 12 digit HUC maps.
☒ U.S. Geological Survey map(s). Cite scale & quad name:Homan, AR and Fulton, AR.
☒ USDA Natural Resources Conservation Service Soil Survey. Citation: Miller County, Arkansas.
☒ National wetlands inventory map(s). Cite name: .
☐ State/Local wetland inventory map(s): .
☒ FEMA/FIRM maps:05091C0050D and 05091C0075D.
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): .
or ☐ Other (Name & Date): .
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☐ Other information (please specify): .

B. ADDITIONAL COMMENTS TO SUPPORT JD: .